

MINERALOGICAL MAGAZINE

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THE MINERALOGICAL SOCIETY

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THE MINERALOGICAL SOCIETY

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ERRATA AND ADDENDA

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PAGE LINE

- 267 4 For B.M. 1908,272 read B.M. 1908,372
 982 6 right Entry for Carphosiderite, add ; Greenland, 818
 984 35 right Entry for Isokite, add ; Portugal, 819

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- 94 18 For Ivoara read Ivaara
 167 4* For $R''\text{Mn}_8\text{O}_{16}(\text{OH})_4$ read $R''\text{Mn}_8\text{O}_{16}(\text{OH})_4$
 259 16* For RANSDELL read RAMSDELL
 260 18 For crifiolate read crifolite
 309 27 For 92.3 read 93.3
 419 16 For $n = 1.493^3, 1.496^4$, read $n = 1.493^3, 1.496^4, 1.505 \pm 0.003^6$
 420 after line 20 insert M. E. Denaeyer, Bull. Soc. Belge Géol., 1939, vol. 39, p. 67.
 573 6 For Franz read Frantz
 574 6 For Franz read Frantz

* From bottom of page.

MINERALOGICAL SOCIETY

(Instituted 3 February 1876)

BYE-LAWS¹

1. The object of the Mineralogical Society of Great Britain and Ireland, with which the Crystallogical Society was amalgamated on 11 December 1883, shall be to advance the knowledge of Mineralogy and also of Crystallography and Petrology.

2. The Society shall consist of Ordinary Members and Honorary Members.

ORDINARY MEMBERS

3. Every candidate for Ordinary Membership shall be proposed by two Members, one at least of whom shall have personal knowledge of the candidate.

4. Elections to Ordinary Membership shall be made by the Council, and shall be confirmed at the ensuing General Meeting by a majority consisting of three-fourths of the Members present and voting.

5. Ordinary Members shall pay an entrance fee of £1 and annual subscription of £2. 10s. 0d. They shall be entitled to compound for the annual subscription by a single payment of £60, but Members who have paid their annual subscriptions for fifteen years shall be entitled to compound for £50, and those who have paid such subscriptions for twenty-five years shall be entitled to compound for £40, provided always that no Member shall be entitled to compound who is in arrear with his annual subscription for the preceding calendar year.

6. Annual subscriptions shall be due on the first of January of each year, but Members elected after the first of October shall not be required to pay a subscription for the then current year.

7. No person elected an Ordinary Member of the Society shall be entitled to any of the privileges of Membership until he shall have paid his entrance fee and first annual subscription; and unless these be received within four calendar months of the date of his election, or within such further time as the Council may determine, the election of such person shall be void.

8. At the first Meeting of the Council in each calendar year the name of any Ordinary Member who is in default with his annual subscription for the preceding year shall be brought before the Council, and an intimation that this action has been taken shall be communicated to the Member in writing at his last known address. If at the first meeting in the next ensuing year the Member be still in default and the default be for the two preceding years, the Council shall be empowered to erase his name from the list of Members.

HONORARY MEMBERS

9. Ten persons, non-resident in Great Britain or Ireland, may be elected Honorary Members. They shall pay neither entrance fee nor annual subscription. They shall

¹ Revised at the Anniversary Meeting of 3 November 1931, and further amended on 7 March 1940, 22 January 1948, 24 June 1948, 1 November 1951, 3 November 1955, and 6 November 1958.

not be entitled to vote on any question relating to the management or business of the Society, nor to serve on the Council of the Society, nor to fill any Office in the Society, but subject to these restrictions shall be entitled to every other privilege accorded to Ordinary Members.

10. Every candidate for Honorary Membership shall be proposed by two Members of the Council, and the election shall be by the Council, and shall be confirmed at the ensuing General Meeting by a majority consisting of three-fourths of the Members present and voting.

COUNCIL

11. The Society shall be governed by a Council consisting of a President, two Vice-Presidents, a General Secretary, a Foreign Secretary, a Treasurer, the Editors of the Journal and Abstracts, and twelve Ordinary Members, who shall be elected annually, together with the preceding President,¹ who shall be entitled to remain on the Council for three years from the date of his retirement from the Chair, and, *ex officio*, the Managing Trustees of the Society.

12. The President, General Secretary, Treasurer, and Editors of the Journal and Abstracts shall be deemed the Officers of the Society.

13. A Managing Trustee shall not be precluded by reason of his appointment as such from being an Officer, Vice-President, or Foreign Secretary of the Society.

14. The Officers, Vice-Presidents, Foreign Secretary, and Ordinary Members of Council shall be elected annually at the Anniversary Meeting, which shall be held in November each year or as near thereto as may be convenient.

15. Four Ordinary Members of Council shall retire annually at the Anniversary Meeting, and shall not be eligible for re-election as such until the next Anniversary Meeting.

16. At or before the end of June in each year the Council shall prepare a list of Members nominated by the Council as Officers, Vice-Presidents, Foreign Secretary, and as Ordinary Members of Council for the next ensuing year.

17. The list of Members nominated by the Council in accordance with the preceding Bye-law shall be sent by the General Secretary to every Member of the Society at his last known address not later than the next ensuing 20 July.

18. Additional nominations may be made by Members of the Society, not being Members of the Council, subject to the following conditions:

- (a) All such nominations must be received by the General Secretary not later than the next ensuing 1 September, and no nomination received after that date shall be valid.
- (b) Every Candidate, whether proposed as an Officer, Vice-President, Foreign Secretary, or Ordinary Member of Council, must be proposed by not less than eight Members of the Society, not being Members of the Council, who must all sign the Candidate's Nomination Form, which must be accompanied by a statement signed by the Candidate that he accepts nomination.
- (c) No Member of the Society may propose more than four Candidates.
- (d) No Candidate may be nominated for more than one position on the Council.
- (e) No Member of the Society whose name has been entered on the list of Candidates nominated by the Council for Ordinary Membership of Council may accept nomination under this Bye-law for any other position on the Council.

¹ Presidents who were elected previous to the date (1948) of the passing of this Bye-law may remain Life Members of the Council as provided in the original Bye-laws revised in 1931 and 1940.

19. If through death or for any other reason a vacancy should be created on the list circulated by the Council, the Council shall have power to fill the vacancy thus created, and shall notify the Members of the Society of this change as soon as possible, in any case not later than on the notice convening the Anniversary Meeting.

20. If no more than twenty Candidates are nominated and the nominations be in accordance with the provisions of these Bye-laws, the Candidates shall be declared duly elected at the next ensuing Anniversary Meeting.

21. If more Candidates are nominated for any of the positions on the Council set out in Bye-law 11 than there are places to be filled, then an election by Ballot shall be held.

22. In the event of an election by Ballot being required, the General Secretary shall issue to every Member of the Society at his last known address not later than the next ensuing 30 September a voting-paper containing the names of all Candidates duly nominated in accordance with the provisions of these Bye-laws, which list shall show the Office or other position on the Council for which each Candidate has been nominated.

23. No vote may be cast for any Candidate whose name is not entered on the voting list, and no member may vote for more than twenty Candidates in all.

24. Every Member voting shall place his voting-paper when duly completed in an envelope, which shall be closed and placed in another envelope for return to the Scrutineers of the Ballot. The outer envelope must also be closed, must be inscribed 'Voting Paper', and must bear the name of the Member voting, but no indication of the Voter's identity may appear on the voting-paper or on the inner envelope. Members voting may return their voting-papers enclosed in the manner prescribed to the General Secretary beforehand by post or other means or may deliver them to him at the commencement of the Anniversary Meeting.

25. As soon as may be convenient after the opening of the Anniversary Meeting the Chairman of the Meeting shall appoint from amongst the Members present two Members, not being Members of the Council or Candidates for election to the Council, to act as Scrutineers of the Ballot, to whom the outer envelopes containing the voting-papers received by the General Secretary shall be forthwith delivered unopened, and when this has been done the Ballot shall be declared closed.

26. Upon completion of their examination of the voting-papers the Scrutineers shall present to the Chairman of the Meeting a list showing the result of the Ballot, and if the list be in accordance with the provisions of these Bye-laws, the Chairman shall declare the new Council to have been duly elected and to be constituted in accordance with the provisions of these Bye-laws.

27. If, however, any difficulty should arise in constituting the new Council in conformity with the provision of these Bye-laws from the list returned by the Scrutineers owing to an equality of votes or otherwise, the decision of the Chairman, who shall have a casting vote, shall be final, provided always that in no case shall the Chairman declare elected more than sixteen Members who were Members of the retiring Council.

28. The Council shall have power to appoint Officers, and to co-opt Ordinary Members of Council, to fill vacancies in the Council caused by death or resignation during the interval between two Anniversary Meetings.

29. Meetings of the Council shall be summoned by the General Secretary at the order of the President or of not fewer than three Members of the Council; at such meetings six shall be a quorum, of whom one shall be either the President, a Vice-President, the Treasurer, or the General Secretary.

30. A Report of Council on the work and progress of the Society shall be submitted to each Anniversary Meeting.

PROPERTY AND TRUSTEES

31. Three or more Trustees shall be appointed by the Council. Of the Trustees thus appointed not less than two shall be Managing Trustees selected from amongst the Members of the Society, and one a Custodian Trustee. The Custodian Trustee shall be the Public Trustee or a Bank or other Corporate Body authorized by law to act as Trustee, and the invested property of the Society shall stand in his or its name.

32. Any Member of the Society appointed a Managing Trustee shall be appointed in the first instance for a period of five years, and he shall be eligible thereafter for reappointment for such further periods of five years at any one time as the Council may determine.

33. The Council may from time to time make such purchases of books or other movable effects as they may consider to be required for the furtherance of the objects of the Society and the conduct of its business. They may also dispose of such effects by sale, if not required, provided that no instruction to sell at any one time effects the total value of which exceeds the sum of fifty pounds shall be valid unless endorsed by a resolution passed at a General Meeting of the Society.

34. The Council may authorize the investment of money and the sale of investments. A copy of a resolution of the Council authorizing the sale or purchase of investments, certified by the Chairman of the meeting at which it was passed, shall be sufficient authority to the Managing Trustees to give effect to such resolution.

35. Composition fees shall be treated as Capital, and all moneys so received and all other moneys the investment of which has been authorized by the Council shall be invested in such stock or security as the Council may select from amongst the stocks and securities authorized by law for the investment of trust moneys.

36. No Member of the Society is or shall be entitled to any distinct or separate share in the estate, revenue, or effects of the Society, and the Society shall not and may not make any dividend, gift, division, or bonus in money unto or between any of its Members, provided that nothing herein shall prevent the payment in good faith of reasonable and proper remuneration, or of an honorarium in lieu thereof, to any Member of the Society in return for services rendered to the Society, nor prevent the distribution of copies of the publications of the Society gratis among the Members of the Society.

37. In the event of a dissolution of the Society its property and effects (whether funded or otherwise) shall be disposed of by gift to such other Societies or Institutions or in such other manner as may be decided by the vote of a majority of at least three-fourths of those present and voting at a General Meeting of the Society summoned with notice of the proposed disposal, provided that no individual Members shall benefit thereby, and that such gift or other disposal shall be for the benefit of Mineralogy or its allied sciences.

MEETINGS

38. General Meetings of the Society shall be summoned from time to time as may be deemed necessary by the Council, or on the requisition of any ten Members of the Society. One of these meetings in each year shall be termed the Anniversary Meeting. Any meeting of the Society summoned for the purpose of considering

special matters relating to the business of the Society shall be termed a Special General Meeting, and the summons thereto shall contain the resolution of other matter to be considered, and shall be issued to the Members not less than four weeks before the date fixed for the Meeting.

JOURNAL

39. The Numbers of the *Mineralogical Magazine and Journal of the Society* and *Mineralogical Abstracts* shall be issued at such intervals as the Council shall determine, and shall be sent, postage paid, to every Member of the Society, other than annual subscribers who are in default with their annual subscriptions for the preceding calendar year.

AUDITORS AND BALANCE SHEET

40. One Member of the Council and one Ordinary Member of the Society, who is not a Member of the Council, shall be appointed annually by the Council to audit the accounts of the Society.

41. No auditor shall serve for more than three years in succession.

42. The audited Balance Sheet, after submission to the Council, shall be published in the Journal of the Society as early as possible in every year.

EXPULSION OF MEMBERS

43. A majority consisting of three-fourths of the whole Council shall have power to expel a Member from the Society, but a Member who has been expelled shall have a right of appeal to the Society. Notice of such appeal to the Society shall be sent by such Member to the General Secretary within four weeks of the expulsion, and the appeal shall be considered by the Society at the next Anniversary Meeting or at a Special General Meeting; a majority of the votes recorded at such Meeting sufficing to confirm or annul the decision of the Council.

ALTERATION OF THE BYE-LAWS

44. The Bye-laws may be altered only at an Anniversary Meeting or at a Special General Meeting duly summoned for the purpose of considering the proposed alterations, and only by a majority consisting of three-fourths of the Members present and voting. Notice of changes proposed to be made in the Bye-laws shall be communicated by the General Secretary to every Ordinary Member of the Society at least four weeks before the Anniversary Meeting or the Special General Meeting summoned for the purpose of their consideration.

OBLIGATION BOOK

45. Ordinary Members, by payment of their entrance fee, signify their acceptance of any Bye-laws approved by the Society; and every Member of the Society shall sign an Obligation Book.

INTERPRETATION

46. In the interpretation of the Bye-laws words in the masculine gender only shall include the feminine gender also.

PAST-PRESIDENTS

H. C. SORBY, 1876-9	W. P. BEALE, 1918-21
M. F. HEDDLE, 1879-81	A. HUTCHINSON, 1921-4
W. H. HUDLESTON, 1881-3	W. W. WATTS, 1924-7
T. G. BONNEY, 1883-5	G. T. PRIOR, 1927-30
L. FLETCHER, 1885-8	J. S. FLETT, 1930-3
R. H. SCOTT, 1888-91	T. H. HOLLAND, 1933-6
M. H. N. STORY-MASKELYNE, 1891-8	L. J. SPENCER, 1936-9
A. H. CHURCH, 1898-1901	A. E. I. M. RUSSELL, 1939-42
H. H. W. MÜLLER, 1901-4	F. N. ASHCROFT, 1942-5
H. A. MIERS, 1904-9	W. CAMPBELL SMITH, 1945-8
W. J. LEWIS, 1909-12	C. E. TILLEY, 1948-51
A. E. H. TUTTON, 1912-5	J. PHEMISTER, 1951-4
W. BARLOW, 1915-8	L. HAWKES, 1954-7

LIST OF MEMBERS

HONORARY MEMBERS

Year of
Election.

- 1958 BUTTGEBACH,¹ Henri Jean François. Formerly Professor of Crystallography and Mineralogy in the University of Liège. *Avenue Madoux 129, Woluwe, St. Pierre, Belgium.*
- 1945 ORCEL, Jean. Professor of Mineralogy in the Muséum National d'Histoire Naturelle. *61 Rue de Buffon, Paris V, France.*
- 1950 QUENSEL, Percy. Emeritus Professor of Mineralogy, *Stockholm University, Drottninggatan 116, Stockholm, Sweden.*
- 1945 SCHALLER,² Waldemar Theodore, Ph.D. *United States Geological Survey, Washington 25, D.C., U.S.A.*
- 1945 SHUBNIKOV, Aleksei Vasilievich. Director of the *Institute of Crystallography, Academy of Sciences, Staromonetnyi 35, Moscow 17, U.S.S.R.*

¹ Ordinary Member 1919-58.

² Ordinary Member 1912-45.

ORDINARY MEMBERS¹

(1 January 1959)

* Life Members.

† Members of long standing exempt from annual subscription.

Year of
Election.

- 1956 ACKERMANN, Keith John, B.Sc., F.G.S. *37 Wentworth Road, Golders Green, London N.W. 11.*
- 1931 ADAMS, Leason Herberling, B.S., D.Sc. *Institute of Geophysics, University of California, Los Angeles 24, California, U.S.A.*
- 1955 ADAMS, Peter Joseph, B.Sc., F.G.S. *Geological Survey and Museum, Exhibition Road, London S.W. 7.*
- 1950 ADAMSON, Olge Johan Jungstedt, Ph.D. *Postbox 42, Smestad, Oslo, Norway.*
- 1950 ADIE, Raymond John, B.Sc., Ph.D. *Falkland Islands Dependencies Survey, Dept. of Geology, The University, Birmingham 15.*
- 1939 AGRELL, Stuart Olof, B.A., Ph.D., F.G.S. *Dept. of Mineralogy and Petrology, Downing Place, Cambridge.*
- 1956 AGUILERA-HERRERA, Nicolas, M.Sc., Dr. *Andromeda No. 22, Mexico 13, D.F., Mexico.*
- 1954 AHRENS, Louis Herman, B.Sc., M.A., D.Sc., F.R.I.C. *Professor of Physical and Inorganic Chemistry. Dept. of Chemistry, University of Cape Town, Rondebosch, Cape Province, Union of South Africa.*
- 1947 *ALBAREDA HERRERA, José Maria. *Professor. Consejo Superior de Investigaciones Científicas, Serrano 121, Madrid, Spain.*
- 1933 ALDERMAN, Arthur Richard, D.Sc., Ph.D., F.G.S. *Professor of Geology and Mineralogy, University of Adelaide, South Australia.*
- 1956 ALLEN, Anthony William, M.Sc., A.M.I.M.M. *Soil Laboratory, Dept. of Agriculture, Sandakan, British North Borneo.*
- 1950 ALLEN, John Barry, B.Sc., Ph.D., F.G.S. *Mineral Resources Division, Overseas Geological Surveys, Commonwealth Institute, London S.W. 7.*
- 1954 AL NAQIB, Khorshid Mohammed, B.Sc., F.G.S., F.R.G.S. *Geological Dept., I.P.C. Ltd., Kirkuk, Iraq.*
- 1956 AMORÓS, José Luis, Ph.D. *Professor of Crystallography in the University of Madrid, Dept. of Crystallography, Museo de Ciencias Naturales, Paseo de la Castellana 84, Madrid, Spain.*
- 1928 *ANDERSON, Basil William, B.Sc., F.C.S. *Ladylane, Lodge Hill, Ditchling, Sussex.*
- 1948 ANDERSON, John Graham Comrie, M.A., Ph.D., D.Sc., F.R.S.E. *Professor of Geology, University College, Newport Road, Cardiff.*
- 1945 ANDERSON, William, M.Sc., F.G.S., F.R.S.E. *9 Woodbine Avenue, Gosforth, Newcastle-upon-Tyne 3.*
- 1949 ANDREATTA, Ciro. *Professor, Istituto di Mineralogia e Petrografia, Piazza S. Donato 1, Bologna, Italy.*
- 1926 *ANDREW, Gerald, M.Sc., F.G.S. *81 Abbeville Rd., Clapham Park, London S.W. 4.*

¹ Corrections for this list should be sent to the Secretary, Mineralogical Society, 41 Queen's Gate, South Kensington, London S.W. 7.

Year of
Election.

- 1941 ANDREWS, Gordon Frederick, *Saint Dunstan's House, Carey Lane, London, E.C.2.*
- 1948 ANGOVE, John, A.I.M.M. *Thorntree Villa, Alport Lane, Youlgreave, Nr. Bakewell, Derbyshire.*
- 1939 ARCHAMBAULT, Maurice, Dr. Chief of the Division of Mineralogy and Chemistry, *Quebec Bureau of Mines, Parliament Buildings, Quebec City, Canada.*
- 1948 ARCHIBALD, William Anderson, B.Sc., Ph.D. c/o B.I.S.R.A., *Physics Laboratory, 140 Battersea Park Road, London S.W. 11.*
- 1958 ARMSTRONG, Donald, B.Sc. *Geological Laboratory, Springs Mines Ltd., P.O. Box 54, Springs, Transvaal, Union of South Africa.*
- 1955 ARMSWORTH, Donald Clive, F.G.S. *17 Elm Road, Redhill, Surrey.*
- 1954 ARNOTT, Ronald James, B.Sc., M.Sc. *Lincoln Laboratory, P.O. Box 73, Lexington 73, Massachusetts, U.S.A.*
- 1958 ASHFORD, John Hatfield, B.Sc. c/o *The Streetley Magnesite Co. Ltd. (Research Dept.), P.O. Box 8, Palliser Works, Hartlepool, Co. Durham.*
- 1936 ASPLAND, Vivien Lindsey, M.C., A.R.S.M., A.M.I.M.M. '*Serendah*', *Upton Cliff, Bude, Cornwall.*
- 1951 ASSARSSON, Gunnar Olof, Ph.D. *Geological Survey of Sweden, Stockholm 50.*
- 1953 AUGUSTITHIS, Stylianos Savvas, B.Sc., F.G.S., Dr. rer. nat. *P.O. Box 157, Addis Ababa, Ethiopia.*
- 1951 AXELROD, Joseph Meyer, B.S., M.S. *Bldg. 106, MS 1030, P.O. Box 90427, Airport Station, Los Angeles 45, California, U.S.A.*
- 1956 BAILEY, Sturges Williams, Ph.D. *Dept. of Geology, University of Wisconsin, Madison 6, Wisconsin, U.S.A.*
- 1948 *BAKER, George, M.Sc. *Dept. of Geology, Melbourne University, Carlton, Melbourne N. 3, Victoria, Australia.*
- 1949 BALL, David Francis, B.A. *The Nature Conservancy, Y Fron, The Crescent, Upper Bangor, Caernarvonshire.*
- 1932 BANDY, Mark Chance, A.B., M.A., Ph.D., E.M. *P.O. Box 31, Wickenburg, Arizona, U.S.A.*
- 1927 *BANNISTER, Frederick Allan, M.A., Sc.D., F.Inst.P. Formerly Keeper of Minerals in the British Museum. *Chantry House, Vicarage Lane, Horley, Surrey.*
- 1953 BARRATT, Alfred Henry Douglas. *P.O. Box 168, Broken Hill, New South Wales, Australia.*
- 1951 BARRON, Christopher Norman, B.A. c/o *Geological Survey, Brickdam, Georgetown, British Guiana, South America.*
- 1949 BÁRTA, Rudolph, Professor. *Chemical-technological University, Hradčany, Micurinova 5, Praha VI, Czechoslovakia.*
- 1939 BARTH, Thomas Fredrik Weybye, M.A., Ph.D. Professor, *Mineralogisk-Geologisk Museum, Oslo 45, Norway.*
- 1956 BARTHOLOMÉ, Paul, A.I. Lg., M.A., Ph.D. *Chargé de Coins, Lovanium University, B.P. 2158, Leopoldville, Belgian Congo.*
- 1950 BASTA, Emile Zaghloul, B.Sc., M.Sc., Ph.D., F.G.S. *Department of Geology, Faculty of Science, Cairo University, Giza, Egypt.*
- 1947 BATES, Thomas Fulcher, B.A., M.S., Ph.D., A.I.M.E. *Dept. of Agronomy, College of Agriculture, Hawaii Agricultural Experiment Station, Honolulu 14, Hawaii.*
- 1952 BATTEY, Maurice Hugh, M.Sc., F.G.S. *Geology Dept., King's College, Durham University, Newcastle-upon-Tyne, 1.*

Year of
Election.

- 1948 BAWDEN, Frederick Charles Michell. *Geological Dept., New Consolidated Goldfields Ltd., P.O. Box 1167, Johannesburg, South Africa.*
- 1928 BEARD, Edward Harold, B.Sc. *Mineral Resources Division, Overseas Geological Surveys, Commonwealth Institute, London S.W. 7.*
- 1950 BECK, Carl Wellington, A.B., A.M., Ph.D. *Dept. of Geology, Indiana University, Bloomington, Indiana, U.S.A.*
- 1952 BENSUSAN, (Mrs.) Margaret Dorothy, B.A., F.R.G.S. *8615 Columbus Avenue, Sepulveda, California, U.S.A.*
- 1958 BERKIN, Leslie Vincent Ivan. *c/o Pike Bros., Fayle, and Co. Ltd., Claymines, Wareham, Dorset.*
- 1929 BERNAL, John Desmond, M.A., F.R.S. *Professor of Physics, Birkbeck College Research Laboratory, 21 Torrington Square, London W.C. 1.*
- 1938 *BERRY, Leonard Gascoigne, M.A., Ph.D. *Associate Professor of Mineralogy, Queen's University, Kingston, Ontario, Canada.*
- 1947 BESSEY, George Edward, M.Sc., F.R.I.C. *c/o Chalk Lime and Allied Industries Research Association, The Hall, 30 Church Street, Welwyn, Hertfordshire.*
- 1958 BEVERIDGE, Alexander James, B.Sc., M.Sc. *64 Heston Street, Calgary, Alberta, Canada.*
- 1954 BILGRAMI, Sabihuddin Ahmed, B.Sc., Ph.D., A.I.S.M., F.G.S. *c/o Geology Dept., University of Minnesota, Minneapolis, Minnesota, U.S.A.*
- 1948 BIRD, Frederick William. *'Braddon', Godstone Road, Betchingley, Surrey.*
- 1952 BISHOP, Arthur Clive, B.Sc., Ph.D., F.G.S. *Dept. of Geology, Queen Mary College, Mile End Road, London E. 1.*
- 1943 BISHOPP, Douglas Wallace, A.R.S.M., M.I.M.M., F.G.S. *Geological Dept., Anglo-American Corporation of South Africa, P.O. Box 4587, Johannesburg, Transvaal, Union of South Africa.*
- 1954 BLACK, George Purves, B.Sc., Ph.D., F.G.S. *110 Blackford Avenue, Edinburgh 9.*
- 1958 BLOSS, Fred Donald, B.S., M.S., Ph.D. *Dept. of Geology, Southern Illinois University, Carbondale, Illinois, U.S.A.*
- 1948 BLOTT, John Frederick Thomas, B.Sc. *Thornton Research Centre, P.O. Box 1, Chester.*
- 1952 BLOXHAM, Thomas Wallace, B.Sc., F.G.S. *Dept. of Geology, University College, Singleton Park, Swansea, Glamorganshire.*
- 1937 BLYTH, Francis George Henry, Ph.D., M.Sc., A.C.G.I., D.I.C., F.G.S. *Dept. of Geology, Imperial College of Science and Technology, London S.W. 7.*
- 1954 BOLFA, Joseph, Professor. *Institut de Minéralogie, 4 Avenue Heydenreich, Nancy, France.*
- 1958 BONANNO, Antonio Charles. *815 Aspen Street N.W., Washington 12, D.C., U.S.A.*
- 1957 BOND, Joyce Marjorie, B.Sc., F.G.S. *49 Purley Bury Avenue, Purley, Surrey.*
- 1931 BOTTLEY, Edward Percival, F.G.S. *30 Old Church Street, Chelsea, London S.W. 3.*
- 1927 BOUBÉE, Nérée, Licencié-ès-Sciences. *3 Place St. André-des-Arts, Paris VI, France.*
- 1954 BOURBEAU, Gerard Auguste, B.A., B.S., M.S., Ph.D. *Agronomy (Soils) Dept., University of Maryland, College Park, Maryland, U.S.A.*
- 1948 BOWIE, Stanley Hay Umphray, B.Sc. *Geological Survey of Great Britain, Atomic Energy Division, Young Street, Kensington, London W. 8.*
- 1955 BOWN, Michael George, M.A. *Dept. of Geology and Mineralogy, University Museum, Oxford.*

Year of
Election.

- 1957 BOYD, David, B.A., F.G.S. 7 *The Woodlands, London Road, Harrow-on-the-Hill.*
- 1951 BRADLEY (Mrs.) Olive, B.Sc., Ph.D., F.G.S. 83 *Muswell Hill Road, Muswell Hill, London N. 10.*
- 1947 BRADLEY, William Frank, Ph.D. *Illinois State Geological Survey, Urbana, Illinois, U.S.A.*
- 1958 BRADSHAW, Neville, B.Sc. 6 *Park Road, Whalley Range, Manchester 16.*
- 1951 BRADSHAW, Reginald, B.Sc., F.G.S. *Dept. of Geology, The University, Bristol 8.*
- 1955 BRANSCOMEE, Kenneth Cooper, B.Sc., F.G.S. *U.K. Atomic Energy Authority, c/o Geological Survey, P.O. Box 8039, Causeway, Southern Rhodesia.*
- 1952 BRAUNFELD, Asher S. *c/o Israel Geological Survey, Hebron Road, Jerusalem, Israel.*
- 1957 BREHLER, Bruno Ernst Joseph, Dr. *Mineralogisches Institut der Universität Deutschhausstraße 10, Marburg/Lahn, Germany.*
- 1949 BRIEBACH, Albert Victor, F.G.S. 'Grayswood', *Overdale Road, Willaston, Wirral, Cheshire.*
- 1946 *BRINDLEY, George William, M.Sc., Ph.D., F.Inst.P. Professor of Solid State Technology, *Dept. of Ceramic Technology, Pennsylvania State University, University Park, Pennsylvania, U.S.A.*
- 1953 BROCH, Olaf Anton, Professor. *Norges geologiske undersøkelse, Josefines gt. 34, Oslo, Norway.*
- 1950 BROGNON, Georges Philippe. *General Manager, Missão de Pesquisas Petróleo, P.O. Box 1320, Luanda, Angola.*
- 1950 BROOKS, Richard, B.A., B.Sc., A.Inst.P. *Coombe Cottage, Station Road, Delamere, Northwich, Cheshire.*
- 1950 BROTHERS, Raymond Nicholas, M.Sc., Ph.D., D.I.C., F.G.S. *Geology Dept., University College, Princes Street, Auckland C.I., New Zealand.*
- 1952 BROWN, Cyril Simon, B.Sc., A.Inst.P. *Research Laboratories, General Electric Company Ltd., East Lane, North Wembley, Middlesex.*
- 1947 BROWN, George, B.Sc. *Rothamsted Experimental Station, Harpenden, Hertfordshire.*
- 1951 BROWN, George Malcolm, M.A., D.Phil., B.Sc., F.G.S. *Dept. of Geology and Mineralogy, University Museum, Oxford.*
- 1951 BRUIJN, Cornelis Marinus Adrianus de. *Soils Mechanics Section, Council for Scientific and Industrial Research, P.O. Box 395, Pretoria, South Africa.*
- 1923 BUCKLEY, Harold Eugene, D.Sc., F.C.S. Reader in Crystallography, *University of Manchester. 'Bradda', 100 Hazellhurst Road, Worsley, Nr. Manchester.*
- 1958 BUNDY, Wayne Miley, Ph.D. *Georgia Kaolin Co., 433 North Broad Street, Elizabeth 3, New Jersey, U.S.A.*
- 1946 BURBAGE, Edgar John, 26 *Wolseley Gardens, Chiswick, London W. 4.*
- 1957 BURKE, Kevin Charles, B.Sc., Ph.D., F.G.S. *Geological Survey of Great Britain, Atomic Energy Division, Young Street, Kensington, London W. 8.*
- 1926 *BURRI, Conrad Robert, Ph.D., Professor. *Mineralogical Institute, Sonneggstrasse 5, Zürich 6, Switzerland.*
- 1952 BURST, John Fred, Ph.D. 3737 *Bellaire Boulevard, Houston, Texas, U.S.A.*
- 1954 BUTCHER, Norman Edward, B.Sc., F.G.S. *Geology Dept., The University, Reading.*
- 1957 BUTLER, Barry Conrad Milne, B.A., F.G.S. *Dept. of Mineralogy and Petrology, Downing Place, Cambridge.*

Year of
Election.

- 1947 *BUTLER, John Russell, B.A., Ph.D. *Geology Dept., Imperial College of Science and Technology, Prince Consort Road, London S.W. 7.*
- 1954 BYRNE, Patrick James Sherwood, B.Sc., M.Sc., Ph.D. *Research Council of Alberta, University of Alberta, Edmonton, Alberta, Canada.*
- 1954 CAILLÈRE, (Mlle) Simonne Anne Marie. *Laboratoire de Mineralogie, Muséum d'Histoire Naturelle, 61 Rue de Buffon, Paris V, France.*
- 1956 CANDLIN, (Mrs.) David (*née* Eileen Rosemary Sylvester Shaw), M.A., Ph.D. *Crystallographic Laboratory, Cavendish Laboratory, Free School Lane, Cambridge.*
- 1954 CARMICHAEL, Ian Stuart Edward. *46 The Chase, Clapham, London S.W. 4.*
- 1950 CARROLL, (Miss) Dorothy, B.A., B.Sc., Ph.D., D.I.C. *Geochemistry and Petrology Branch, U.S. Geological Survey, Washington 25, D.C., U.S.A.*
- 1955 CHAMBERS, Geoffrey Prytherch Campbell. *29 Hedley Road, St. Albans, Hertfordshire.*
- 1950 CHRIST, Charles Louis, Ph.D. *United States Geological Survey, Washington 25, D.C., U.S.A.*
- 1955 CHUDOBA, Karl F., Dr. *Thomas Mann Straße 7, Göttingen, Germany.*
- 1950 CLARE, Kenneth Ernest, B.Sc., A.R.I.C. *Road Research Laboratory, Harmondsworth, West Drayton, Middlesex.*
- 1935 *CLARINGBULL, Gordon Frank, B.Sc., Ph.D., A.Inst.P., F.G.S. *Keeper of Minerals, British Museum (Natural History), Cromwell Road, London S.W. 7.*
- 1948 CLARK, Norman Owen, Ph.D., M.Sc., D.I.C. *c/o English Clays Lovering Pochin & Co. Ltd., St. Austell, Cornwall.*
- 1947 CLAUSEN, Hans Carl Eisenreich, M.Sc. *Mineralogical Museum, Østervoldgade 7, Copenhagen, Denmark.*
- 1957 CLIFFORD, Tom Neville, B.Sc., Ph.D., F.G.S. *Dept. of Geology, The University, Leeds 2.*
- 1952 COCKBAIN, Alan Gray. *20 Francis Crescent South, Rotherham, Yorkshire.*
- 1931 COCKBURN, Alexander Murray, B.Sc., Ph.D., F.R.S.E. *Grant Institute of Geology, King's Buildings, West Mains Road, Edinburgh 9.*
- 1949 COHEN, Enrico, M.Sc., F.G.S. *58 Wolsey Road, Moor Park, Northwood, Middlesex.*
- 1949 COHEN, (Mrs.) Judith Augusta Maria, B.Sc., F.G.S. *58 Wolsey Road, Moor Park, Northwood, Middlesex.*
- 1927 *COKE, Basil Elmsley, O.B.E., M.A., Lt.-Col. R.E. (retd.). *Army and Navy Club, Pall Mall, London S.W. 1.*
- 1947 COLLIER, William Marshall, B.Sc., A.M.Inst.E. *'Sunny Brae', Mickley, Stocksfield, Northumberland.*
- 1950 COLLINI, Bengt Henric Emanuel. *Rundelsgränd 6D, Uppsala, Sweden.*
- 1941 COLLINS, Reginald Stevenson, Ph.D., B.Sc., D.I.C., F.G.S. *18 Upper Park Road, London N.W. 3.*
- 1950 COOKE, Reginald Ernest, B.Sc., M.I.M.M. *71 Roundwood Way, Banstead, Surrey.*
- 1947 COOMBER, Stephen Edward, A.R.S.M., B.Sc., D.I.C. *'Sakers Mead', Reigate Hill, Reigate, Surrey.*
- 1949 COOMBS, Douglas Saxon, M.Sc., Ph.D., F.G.S. *Professor of Geology, University of Otago, Dunedin, N.I., New Zealand.*
- 1948 CORRENS, Carl Wilhelm Erich. *Professor, Sedimentpetrographisches Institut, Lotzestraße 13, Göttingen 20, Germany.*

Year of
Election.

- 1946 COTELO NEIVA, João Manuel, D.Sc., D.Ph. Professor, *Museu e Laboratório Mineralógico e Geológico, Universidade de Coimbra, Portugal.*
- 1947 COX, Ernest Gordon, D.Sc., F.R.I.C., F.Inst.P., F.R.S. Professor of Inorganic and Structural Chemistry. *The University, Leeds 2.*
- 1951 CROASDALE, Ronald, B.Sc., Ph.D., F.G.S. *Geology Dept., Imperial College of Science and Technology, Prince Consort Road, London S.W. 7.*
- 1953 CROFT, William Joseph, B.Sc., M.A. *Radio Corporation of America, Components Division, 64 'A' Street, Needham Heights 94, Massachusetts, U.S.A.*
- 1957 CUMMINS, Arthur Benson, B.S., Ph.D. *Morning Glory Road, Bound Brook, New Jersey, U.S.A.*
- 1958 CUNDY, Edwin Kenneth. *33 Margaret Avenue, St. Austell, Cornwall.*
- 1952 CURRALL, Arnold Edward, B.A., F.G.S. *Dept. of Geology, St. George's Square, Sheffield 1.*
- 1958 DARNLEY, Arthur George, M.A., F.G.S. *219 Whitton Avenue East, Greenford, Middlesex.*
- 1935 *DAVIDSON, Charles Findlay, O.B.E., D.Sc., F.R.S.E., F.G.S. Professor of Geology, *St. Andrews University, Gowan Park, Cupar, Fife, Scotland.*
- 1956 DAVIDSON, Douglas Colin, B.Sc., F.G.S. *British Coal Utilization Research Association, Randall's Road, Leatherhead, Surrey.*
- 1947 DAVIDSON, William Francis, F.G.S. *9 Castlegate, Penrith, Cumberland.*
- 1954 DAVIES, George Eveleigh, B.Sc., F.G.S. *British Iron and Steel Research Association, c/o Blast Furnace Laboratory, Imperial College of Science and Technology, Prince Consort Road, London S.W. 7.*
- 1926 DAVIES, George MacDonald, M.Sc., F.G.S. *63 Beechwood Road, Sanderstead, Surrey.*
- 1947 DAVIES, William, Ph.D., M.Sc., F.G.S. *60 Woodholm Road, Sheffield 11.*
- 1958 DAVIS, Richard John, M.A., D.Phil. *Dept. of Mineralogy, British Museum (Natural History), Cromwell Road, London S.W. 7.*
- 1939 DEANS, Thomas, M.A., F.G.S. *Mineral Resources Division, Overseas Geological Surveys, Commonwealth Institute, London S.W. 7.*
- 1948 DEARMAN, William Robert, B.Sc., Ph.D., A.R.C.S., F.G.S. *13 Kingsland, Jesmond, Newcastle-upon-Tyne 2.*
- 1955 DE ENDREDY, Andrew Sigmund, Ph.D. *Dept. of Soil and Land-use Survey, Private Post Bag, Kumasi, Gold Coast, West Africa.*
- 1936 DEER, William Alexander, M.Sc., Ph.D., F.G.S. Professor of Geology, *The University, Manchester 13.*
- 1955 DEVRIES, Robert Charles, B.A., Ph.D. *17 Van Vorst Drive, Burnt Hills, New York, U.S.A.*
- 1955 DIETRICH, Richard Vincent, A.B., M.S., Ph.D. *Dept. of Geology, Virginia Polytechnic Institute, Blacksburg, Virginia, U.S.A.*
- 1937 DIXEY, Frank, C.M.G., O.B.E., D.Sc., M.I.M.M., F.G.S. Director, *Overseas Geological Surveys, Commonwealth Institute, London S.W. 7.*
- 1958 DOCHERTY, Bernard Gavin, *7 Rodil Avenue, Sunshill, Glasgow S. 4.*
- 1957 DODD, Charles Gardner, Ph.D. Professor, *College of Engineering, University of Oklahoma, Norman, Oklahoma, U.S.A.*
- 1933 DOLLAR, Archibald Thomas John, B.Sc., Ph.D., F.R.S.E., F.G.S. Reader in Geology, *Birkbeck College, Malet Street, London W.C. 1.*
- 1940 DONNAY, Joseph Désiré Hubert, E.M., Ph.D. Professor of Crystallography and Mineralogy, *Johns Hopkins University, Baltimore 18, Maryland, U.S.A.*

Year of
Election.

- 1958 DRENNAN, John Alexander, B.Sc. *P.O. Box 1517, Durban, Natal, Union of South Africa.*
- 1937 DREVER, Harold Irving, B.Sc., Ph.D., F.R.S.E. *Dept. of Geology and Mineralogy, The University, St. Andrews, Fife.*
- 1938 DUNHAM, Kingsley Charles, D.Sc., Ph.D., S.D., M.I.M.M., F.G.S., F.R.S. *Professor of Geology, University of Durham, Science Laboratories, South Road, Durham.*
- 1936 *DUNN, John Alexander, D.Sc., D.I.C., F.G.S. *29 Turnbull Avenue, Toorak, Melbourne S.E. 2, Victoria, Australia.*
- 1950 DUNNING, Frederick Weir, B.Sc. *Geological Survey and Museum, Exhibition Road, London S.W. 7.*
- 1952 DYSON, Peter, B.Sc. *143 Easterly Road, Leeds 8.*
- 1950 EARLEY, James William, B.Sc., M.A., Ph.D. *Gulf Research and Development Co., P.O. Drawer 2038, Pittsburgh 30, Pennsylvania, U.S.A.*
- 1926 *ECKERMANN (Claes Walther) Harry von, Ph.D. *Hon. Professor of Petrology, University of Stockholm. Edeby Ripsa, Sweden.*
- 1952 *EDWARDS, Richard Charles John, B.Sc., A.R.S.M. *Apartment 1, 100 Frontenac Street, Noranda, Quebec, Canada.*
- 1957 ELDERS, Wilfred Allan, B.Sc. *Mineralogisk-Geologisk Museum, Tøyen, Oslo 45, Norway.*
- 1952 ELLIOT, Ranald William, D.Sc., F.G.S. *Geological Survey and Museum, Exhibition Road, London S.W. 7.*
- 1948 ELLIOTT, Robert Brian, B.Sc., Ph.D., F.G.S. *Dept. of Geology, The University, Nottingham.*
- 1948 EMBREY, Peter Godwin, B.Sc., M.A., A.R.I.C. *Dept. of Mineralogy, British Museum (Natural History), Cromwell Road, London S.W. 7.*
- 1957 EMELEUS, Charles Henry, M.Sc., D.Phil., F.G.S. *Dept. of Geology, University Science Laboratories, South Road, Durham.*
- 1958 EMMONS, Richard Conrad, M.A., Ph.D. *Dept. of Geology, University of Wisconsin, Madison, Wisconsin, U.S.A.*
- 1956 ENGELHARDT, Wolf von, Dr. Phil., Hon. Prof., *Mineralogisches Institut der Universität, Wilhelmstraße 56, Tübingen, Germany.*
- 1958 EVANS, Bernard William, B.Sc., F.G.S. *Dept. of Geology, The University, Glasgow W. 2.*
- 1939 *EVANS, Robert Crispin, Ph.D., M.A., B.Sc. *Dept. of Mineralogy and Petrology, Downing Place, Cambridge.*
- 1944 EVANS, William David, M.Sc., Ph.D., A.I.M.M., F.G.S., F.R.G.S. *Professor of Geology, The University, Nottingham.*
- 1956 EXLEY, Colin Stewart, M.A., D.Ph., F.G.S. *Dept. of Geology, University College of North Staffordshire, Keele, Staffordshire.*
- 1946 EYLES, Victor Ambrose, B.Sc., F.R.S.E., F.G.S. *The Vicarage, Milton-under-Wychwood, Oxford.*
- 1943 FAHEY, Joseph John. *United States Geological Survey, Washington 25, D.C., U.S.A.*
- 1957 FAN, Pow Foong, B.S. *522 Landfair Avenue, Los Angeles 24, California, U.S.A.*
- 1958 FARLAM, Jeffrey Raymond, B.Sc. *The Kaduna Syndicate Ltd., Post Office, Jos, Northern Nigeria.*
- 1943 FAUST, George Tobias, B.S., M.S., Ph.D. *United States Geological Survey, Washington 25, D.C., U.S.A.*

Year of
Election.

- 1949 FAVEJEE, Johan Christiaan Louis, Ph.D. *Geological Institute, Duivendaalse laan 2, Wageningen, Netherlands.*
- 1958 FAWCETT, James Jeffrey, B.Sc. *Dept. of Geology, The University, Manchester 13.*
- 1926 *FEARNSIDES, William George, M.A., F.R.S. Emeritus Professor of Geology, University of Sheffield. *11 Ranmoor Crescent, Sheffield 10.*
- 1947 *FERGUSON, Robert Bury, M.A., Ph.D. *Dept. of Geology, University of Manitoba, Winnipeg, Canada.*
- 1951 FINCH, James, B.E., B.Sc. *Dominion Laboratory, Sydney Street West, Wellington, New Zealand.*
- 1951 FINCH, Leslie Gordon, B.Met., Ph.D. *Brenva, Grindleford, Nr. Sheffield, Yorkshire.*
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- 1945 LOUPEKINE, Igor Serge, B.Sc., Ph.D., F.G.S. *Royal Technical College of East Africa, Private Bag, Nairobi, Kenya.*
- 1958 LOVERING, (Mrs.) Jennifer Kerry, B.Sc., M.A. *Flat 29, Block 9, 12 Fitzroy Street, Forrest, A.C.T., Australia.*
- 1946 *MACEWAN, Douglas Maclean Clark, M.A., B.Sc., Ph.D., A.Inst.P. *Carnegie Laboratory of Physics, Queen's College, University of St. Andrews, Dundee.*
- 1914 †MACGREGOR, Alexander Miers, O.B.E., M.A., D.Sc., F.G.S. *Formerly Director of the Geological Survey, Southern Rhodesia. P.O. Box 1696, Salisbury, Southern Rhodesia, South Africa.*
- 1929 MACGREGOR, Archibald Gordon, M.C., D.Sc., F.R.S.E., F.G.S. *Assistant Director, Geological Survey of Great Britain (Scottish Office), 19 Grange Terrace, Edinburgh 9.*
- 1929 MACGREGOR, Murray, M.A., D.Sc., F.R.S.E., F.G.S. *Formerly Assistant Director, Geological Survey of Great Britain (Scottish Office). 53 Glencairn Drive, Glasgow S. 1.*
- 1956 MACKAY, Robert Douglas, B.Sc., A.M.I.C.E. *Dept. of Civil Engineering, University of Leeds, Leeds 2.*

Year of
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- 1947 MACKENZIE, Robert Cameron, D.Sc., Ph.D., F.R.I.C. *Macaulay Institute for Soil Research, Craigiebuckler, Aberdeen.*
- 1950 MACKENZIE, William Scott, M.A., B.Sc., Ph.D. *Dept. of Geology, The University, Manchester 13.*
- 1950 McANDREW, John, B.Sc. *Geology Dept., University of Melbourne, Carlton N. 3, Victoria, Australia.*
- 1951 McCALEB, Stanley Bert, B.S., M.S., Ph.D. *Sun Oil Co., 503 North Central Expressway, Richardson, Texas, U.S.A.*
- 1951 McCAUGHEY, William John, B.S., Ph.D., Professor. *115 Lord Hall, Ohio State University, Columbus 10, Ohio, U.S.A.*
- 1945 McCONNELL, Duncan, Ph.D. *Research Professor, College of Dentistry, Ohio State University, Columbus 10, Ohio, U.S.A.*
- 1954 McCONNELL, James Desmond Caldwell, M.Sc. *Dept. of Mineralogy and Petrology, Downing Place, Cambridge.*
- 1955 McKIE, Duncan, B.Sc., B.A., A.R.I.C., F.G.S. *Dept. of Mineralogy and Petrology, Downing Place, Cambridge.*
- 1950 McLACHLAN, Geoffrey Roy, M.Sc. *The Museum, Port Elizabeth, South Africa.*
- 1949 McLAUGHLIN, Robert Joseph William, M.Sc., Ph.D. *Dept. of Geology and Mineralogy, University of Melbourne, Carlton N. 3, Melbourne, Victoria, Australia.*
- 1908 †McLINTOCK, William Francis Porter, C.B., D.Sc., F.R.S.E., F.G.S. *Formerly Director, Geological Survey of Great Britain. 'Firgrove', Rosemount, Blairgowrie, Perthshire.*
- 1958 MAJUMDAR, Amal, Ph.D. *Portland Cement Association Fellowship, National Bureau of Standards, Washington 25, D.C., U.S.A.*
- 1955 MAKSIMOVIĆ, Zoran. *Laboratory of Mineralogy and Petrology, Dobracina 16, Belgrade, Yugoslavia.*
- 1950 MAREL, Herman Willem van der. *Schutsweg 8, Quid-laren (Dr), Netherlands.*
- 1950 MARSHALL, Charles Edmund, M.Sc., Ph.D. *Professor, Dept. of Soils, College of Agriculture, University of Missouri, Columbia, Missouri, U.S.A.*
- 1938 MARSHALL, Charles Edward, D.Sc., Ph.D., M.I.M.M., F.G.S. *Professor of Geology, University of Sydney, New South Wales, Australia.*
- 1957 MARTIN-VIVALDI, Juan Luis, Dr. en Ciencias. *Estación Experimental del Zaidin, Avenida de Cervantes, Granada, Spain.*
- 1943 *MASON, Brian Harold, M.Sc., Ph.D. *Curator of Physical Geology and Mineralogy, American Museum of Natural History, New York 24, New York, U.S.A.*
- 1957 MATHER, (Mrs.) Katharine Selden Kniskern, A.B., A.I.M.E. *P.O. Drawer 2131, Jackson, Mississippi, U.S.A.*
- 1947 *MATHIAS, (Mrs.) Morna, M.A., Ph.D. *Dept. of Geology, University of Cape Town, Rondebosch, Cape Province, South Africa.*
- 1938 MEEN, Victor Ben, M.A., Ph.D. *Associate Professor, Dept. of Geological Sciences, University of Toronto; and Director of the Royal Ontario Museum of Geology and Mineralogy, 100 Queen's Park, Toronto 5, Ontario, Canada.*
- 1947 MEGAW, (Miss) Helen Dick, M.A., Ph.D., F.Inst.P. *Girton College, Cambridge.*
- 1919 *MELMORE, Sidney, B.Sc. *61 Carr Lane, Acomb, York.*
- 1950 MÉRING, Jacques, *12 Quai Henri IV, Paris I^{ve}, France.*
- 1956 MEYER, Jurg Walter. *Johns-Manville Research Center, Manville, New Jersey, U.S.A.*
- 1946 MIDGLEY, Henry George, M.Sc., Ph.D., F.G.S. *Building Research Station, Garston, Watford, Hertfordshire.*

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Election.

- 1951 MIKAMI, Harry M., B.S., M.S., Ph.D. *P.O. Box 29, Norristown, Pennsylvania, U.S.A.*
- 1947 MILLMAN, Anthony Philip, Ph.D., D.I.C., A.R.S.M., B.Sc., F.G.S. *Imperial College of Science and Technology, London S.W. 7.*
- 1949 MILNE, (Miss) Angela Alice, B.Sc. *c/o Division of Building Research, Commonwealth Scientific and Industrial Research Organization, Highett, Victoria, Australia.*
- 1949 MITCHELL, Bruce Duff, B.Sc. *Macaulay Institute for Soil Research, Craigiebuckler, Aberdeen.*
- 1948 MITCHELL, Ronald Keith. *21 Bark Hart Road, Orpington, Kent.*
- 1948 MITCHELL, William Anderson, B.Sc. *Macaulay Institute for Soil Research, Craigiebuckler, Aberdeen.*
- 1937 MONTGOMERY, Arthur, Ph.D. *277 Park Avenue, New York 17, N.Y., U.S.A.*
- 1955 MOORE, (Miss) Alice Elizabeth, B.Sc., A.Inst.P. *60a Heathfield Road, Acton, London W. 3.*
- 1950 MOREL, Stephen William, B.Sc., F.G.S. *c/o Geological Survey Dept., Zomba, Nyasaland.*
- 1956 MORGAN, William Richard, B.Sc., F.G.S. *c/o The Bureau of Mineral Resources, Geology, and Geophysics, Canberra, A.C.T., Australia.*
- 1952 MORLEY, Russell Alvin Elbridge, M.S. *399 North 18th Street, Salem, Oregon, U.S.A.*
- 1954 MOSS, Alfred Allinson, B.Sc., Ph.D., F.S.A. *Dept. of Mineralogy, British Museum (Natural History), Cromwell Road, London S.W. 7.*
- 1922 *MOUNTAIN, Edgar Donald, M.A., D.Sc. *Professor of Geology, Rhodes University, Grahamstown, South Africa.*
- 1932 MOURANT, Arthur Ernest, B.M., B.Ch., M.A., D.Phil., F.G.S. *c/o Lister Institute of Preventive Medicine, Chelsea Bridge Road, London S.W. 1.*
- 1954 MROSE, (Miss) Mary Emma, B.S.Ed., M.A. *Geochemistry and Petrology Branch, U.S. Geological Survey, Washington 25, D.C., U.S.A.*
- 1948 MUELLER, George, M.A., B.Sc., Ph.D. *Professor, Escuela de Ingeniería Química, Casilla 783, Concepción, Chile.*
- 1947 MUIR, Alexander, B.Sc., Ph.D. *Rothamsted Experimental Station, Harpenden, Hertfordshire.*
- 1949 MUIR, Ian Douglas, B.A., Ph.D., F.G.S. *17 Eachard Road, Cambridge.*
- 1947 MUKHERJEE, Jnanendra Nath, C.B.E., D.Sc., F.C.S. *10 Puranchand Nahar Avenue, Calcutta 13, India.*
- 1950 MUÑOZ TABOADELA, Manuel, Dr. *Professor of Applied Geology, University of Santiago de Compostela, Spain.*
- 1944 MURATA, Kiguma Jack, B.S. *United States Geological Survey, Geochemical Laboratory, Hawaii National Park, Hawaii.*
- 1951 MURRAY, Haydn Herbert, B.S., M.S., Ph.D. *Research Division, Georgia Kaolin Co., 433 North Broad Street, Elizabeth, New Jersey, U.S.A.*
- 1938 NAGELSCHMIDT, Gunther, D.Ph., F.G.S. *Barnfield House, Hathersage, Nr. Sheffield.*
- 1949 NASHAR, (Mrs.) A. S. El, B.Sc., Ph.D. (*née* Beryl Scott). *23 Morris Street, Mayfield West, New South Wales.*
- 1945 NEL, Hans Jurie, M.Sc., D.Sc. *Central Metallurgical Laboratory, Anglo-American Corporation of South Africa, Ltd., P.O. Box 11181, Johannesburg, South Africa.*

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- 1945 NELSON, James Bowman, Ph.D. *10 Belsize Lane, Hampstead, London N.W. 3.*
- 1947 NEUMANN, (Mrs.) Barbara Susan, Ph.D. (*née* Emödi). *Patteson Court, Redhill, Surrey.*
- 1947 *NEUMANN, Henrich, D.Phil. *Mineralogisk-Geologisk Museum, Trondhjemveien 23, Oslo 45, Norway.*
- 1949 NICHOLLS, Geoffrey Dennis, B.A., Ph.D., F.G.S. *Dept. of Geology, The University, Manchester 13.*
- 1957 NICHOLSON, Charles Geoffrey, A.Met., F.I.M. *7 Castlewood Road, Fulwood, Sheffield 10.*
- 1950 NICOLAYSEN, Louis Otto, B.Sc. *Bernard Price Institute of Geophysical Research, University of the Witwatersrand, Milner Park, Johannesburg, Union of South Africa.*
- 1945 NIXON, Harold Leslie, M.A. *Rothamsted Experimental Station, Harpenden, Hertfordshire.*
- 1933 NOCKOLDS, Stephen Robert, B.Sc., Ph.D., F.G.S. *Dept. of Mineralogy and Petrology, Downing Place, Cambridge.*
- 1951 NORIN, Rolf, Ph.D. *Högansbolaget, Högans, Sweden.*
- 1950 NORRISH, Keith, M.Sc., A.Inst.P. *Division of Soils, Commonwealth Scientific and Industrial Research Organization, Adelaide, South Australia.*
- 1956 NORSTRAND, Robert Alexander van, M.S. *836 Park Drive, Flossmoor, Illinois, U.S.A.*
- 1955 NOWACKI, Werner, Dr., Professor. *Tulpenweg 6, Bern 4, Switzerland.*
- 1942 NUFFIELD, Edward Wilfrid, B.A., Ph.D. *Dept. of Geological Sciences, University of Toronto, Toronto 5, Canada.*
- 1948 NURSE, Ronald Walter Brown, D.Sc., F.Inst.P. *Building Research Station, Garston, Watford, Hertfordshire.*
- 1946 O'BRIEN, Murrough Vere, B.A. *Woodtown Park, Rathfarnham, Co. Dublin, Eire.*
- 1956 OFTEDAL, Ivan Werner, Professor, Dr. Phil. *Universitetets Mineralogiske Institutt, Blindern, Oslo, Norway.*
- 1958 O'HARA, Michael John. *Grant Institute of Geology, King's Buildings, West Mains Road, Edinburgh.*
- 1920 *OHASHI, Ryōichi, Emeritus Professor of Geology and Mineralogy. *40 Hodono Suwa Machi, Akita, Japan.*
- 1950 OLIVER, Robin Langford, M.Sc., F.G.S., F.R.G.S. *c/o Geology Dept., Adelaide University, South Australia.*
- 1949 ÖNAY, Toğan Şerif, D.Sc. *Sarayarkasi Sokak 36/4, Ayaspasa, Istanbul, Turkey.*
- 1954 ORMSBY, Walter Clayton, B.S., M.S. *3445, 38th Street N.W., Washington 16, D.C., U.S.A.*
- 1958 ORR, David Blair, B.Sc. *c/o Geological Dept., C.D.M., Orangemund, South-West Africa.*
- 1951 OSBORN, Elburt Franklin, B.S., M.S., Ph.D. *College of Mineral Industries, Pennsylvania State University, University Park, Pennsylvania, U.S.A.*
- 1941 OSBORN, George Howard, A.R.I.C., A.I.M.M. *Cherry Tree Cottage, Merley Ways, Nr. Wimborne, Dorset.*
- 1957 OYAWOYE, Mosobalaje Olaloye, B.Sc. *Dept. of Geology, Science Laboratories, South Road, Durham.*

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- 1951 PABST, Adolf, Ph.D. Professor of Mineralogy, *Dept. of Geological Sciences, University of California, Berkeley 4, California, U.S.A.*
- 1957 PADĚRA, Karel, Dr. Docent Min. *Dept. of Geochemistry, Mineralogy, and Crystallography, Charles University, Albertov 6, Praha 2, Czechoslovakia.*
- 1951 PALLISTER, John Weaver, M.Sc., F.G.S., M.I.M.M. *Geological Survey, Hargeisa, Somaliland Protectorate.*
- 1950 PANTIN, Henry Moir, B.A. *New Zealand Oceanographic Institute, 177 Thondon Qy., Wellington, New Zealand.*
- 1922 *PARKER, Robert Luling, Ph.D. Professor, *Mineralogical Institute, Sonneggstrasse 5, Zürich 6, Switzerland.*
- 1947 PARKER, Thomas Webster, A.R.C.S., D.I.C., A.R.I.C. *c/o English Clays Lovering Pochin & Co. Ltd., St. Austell, Cornwall.*
- 1949 PARKINSON, Reginald Frank Derek, A.M.I.E.T. 'Lynfield', *Cranmore, Nr. Shepton Mallet, Somerset.*
- 1938 PARRISH, William, B.S., Ph.D. *Philips Laboratories Inc., Irvington-on-Hudson, New York, U.S.A.*
- 1946 PARRY, (Mrs.) Gwendoline Iris, B.Sc. *Howard Lodge, 28 Newport Road, Cardiff, South Wales.*
- 1953 PARTHASABATHY, Amudachari, B.Sc., M.A., Ph.D. *5 South Mada Street, Triplicane, Madras 5, India.*
- 1950 PATTERSON, Edward Mervyn, D.Sc., M.Sc., F.R.I.C., F.G.S. *25 Caldwell Road, West Kilbride, Ayrshire, Scotland.*
- 1948 PAVLOVIĆ, Stoyan. Professor, *Dept. of Geology and Mineralogy, The University, Dobracina 16, Belgrade, Yugoslavia.*
- 1957 PAYNE, Bryan Oliver, M.Sc., D.I.C., F.Inst.P. *Cooke, Troughton, and Simms Ltd., Haxby Road, York.*
- 1938 PAYNE, Cecil James, B.Sc. *Precious Stone Section, Laboratory of the London Chamber of Commerce, 15 Hatton Garden, London E.C. 1.*
- 1954 PEACOCK, James Douglas, B.Sc., F.G.S. *5 Eastlands, High Heaton, Newcastle-upon-Tyne 7, Northumberland.*
- 1946 PEARL, Richard M., B.A., M.A. *Dept. of Geology, Colorado College, Colorado Springs, Colorado, U.S.A.*
- 1948 PEASE, Martyn Edward, M.A. *c/o Knibbs and Thyer, Fairfield Road, Borough Green, Sevenoaks, Kent.*
- 1957 PERRAULT, Guy, Ph.D., M.A., B.A., Professor of Mineralogy, *École Polytechnique, 2500 Avenue Guyard, Montreal 26, Canada.*
- 1951 PERRIN, Robert Michael Sumner, M.A., B.Sc., Ph.D. *School of Agriculture, The University, Cambridge.*
- 1958 PETROV, Valeri Petrovich, Dr. Prof. *Staromonetnyi 33/35, Moscow 17.*
- 1923 PHEMISTER, James, M.A., D.Sc., F.R.S.E., F.G.S. *c/o Geological Survey of Great Britain, Southpark, 19 Grange Terrace, Edinburgh 9.*
- 1926 PHEMISTER, Thomas Crawford, Sc.M., Ph.D., D.Sc., F.R.S.E., F.G.S. Professor of Geology and Mineralogy, *Marischal College, University of Aberdeen, Aberdeen.*
- 1926 *PHILLIPS, Frank Coles, M.A., Ph.D., F.G.S. *Dept. of Geology, The University, Bristol 8.*
- 1949 PHILLIPS, Roy, B.Sc. *Dept. of Geology, University of Durham, Science Laboratories, South Road, Durham.*

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- 1949 PITCHER, Wallace Spencer, B.Sc., Ph.D., D.I.C., F.G.S. *15 Blenheim Gardens, Wallington, Surrey.*
- 1947 *POLDERVAART, Arie, D.Sc., Ph.D. *Dept. of Geology, Columbia University, New York 27, N.Y., U.S.A.*
- 1958 PORRENGA, Daniel Hittjo, Dr. *Koninklijke Shell-Laboratorium, Afdelning Geochimie, Badhuisweg 3, Amsterdam-Woord, Holland.*
- 1910 †PORTER, (Miss) Mary Winearls, D.Sc. *3 Crick Road, Oxford.*
- 1938 *POUGH, Frederick Harvey, Ph.D. *4680 Independence Avenue, Riverdale, New York 71, N.Y., U.S.A.*
- 1930 POWELL, Herbert Marcus, M.A., B.Sc. *Reader in Chemical Crystallography, Chemical Crystallography Laboratory, South Parks Road, Oxford.*
- 1949 PRAAGH, Gordon van, B.Sc., Ph.D., A.Inst.P. *Christ's Hospital, Horsham, Sussex.*
- 1938 PRIDER, Rex Tregilgas, B.Sc., Ph.D., F.G.S. *Professor of Geology, University of Western Australia, Nedlands, Perth, Western Australia.*
- 1938 PUGH, William John, O.B.E., B.A., D.Sc., F.R.S. *Director, Geological Survey and Museum, Exhibition Road, London S.W. 7.*
- 1945 PULFREY, William, Ph.D., D.Sc., M.I.M.M., F.G.S. *Chief Geologist, Kenya Colony, P.O. Box 30009, Nairobi, Kenya.*
- 1954 PURTON, Michael John, B.Sc. *Physics Dept., The University, Leeds 2.*
- 1947 RAIKES, Robert Martin, D.S.C., B.A. *'West Lodge', Patteson Court, Nutfield Road, Redhill, Surrey.*
- 1947 RAINE, George Thomas, B.Sc., F.Inst.Pet. *Geological Dept., Kingston Technical College, Fassett Road, Kingston-on-Thames, Surrey.*
- 1954 RAM, Atma, D.Sc. *Central Glass and Ceramic Research Institute, Jadavpur College, Calcutta 32, India.*
- 1950 RANDALL, Bertram Arthur Owen, B.Sc. *'Zenda', 34 Primrose Hill, Low Fell, Gateshead 9, Co. Durham.*
- 1954 RAO, Adusumilli Bhaskara, B.Sc., M.Sc., Ph.D. *Professor of Mineralogy, Curso do Geologia, Rua do Hospicio 425, Recife, Brazil.*
- 1948 RAWLINSON, William. *San Remo, Tan-y-Bryn, Rhos-on-Sea, North Wales.*
- 1954 RAYMOND, Leo Richard, B.Sc., F.G.S. *5 Redwing Lane, Norton-on-Tees, Co. Durham.*
- 1923 READ, Herbert Harold, D.Sc., A.R.C.S., F.R.S. *Emeritus Professor of Geology, Imperial College of Science and Technology, London S.W. 7.*
- 1932 REYNOLDS, Doris Livesey, D.Sc., F.R.S.E., F.G.S. (Mrs. Arthur Holmes). *Grangestone, 7 West Mains Road, Edinburgh 9.*
- 1958 RIBBE, Paul Hubert, M.Sc. *Fused Ceramics Research Division, Corning Glass-works, Corning, New York, U.S.A.*
- 1950 RICE, Harry McLaren, B.A. *Division of Chemistry, Science Service Building, Ottawa, Ontario, Canada.*
- 1948 RICHARDSON, Henry Martin, B.Sc., F.R.I.C. *119 The Avenue, Harpsfield, Stoke-on-Trent, Staffordshire.*
- 1915 RICHARDSON, William Alfred, O.B.E., D.Sc., B.A., B.Sc.(Eng.), F.G.S. *Bollard's End, Bollard's Lane, Sutton Bonington, Nottinghamshire.*
- 1929 RICHEY, James Ernest, M.C., B.A., Sc.D., F.R.S., F.G.S. *The Coach House, Grange of Monifeith, Dundee, Angus.*
- 1947 RIGBY, George Reginald, Ph.D., B.Sc., D.I.C., A.R.C.S., A.R.I.C. *Canadian Refractories Ltd., 540 Canada Cement Building, Phillips Square, Montreal Zu., Canada.*

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Election.

- 1955 ROBBINS, Carl Richard, B.A., M.A. *National Bureau of Standards, Division 9.7, Washington 25, D.C., U.S.A.*
- 1947 ROBERTS, Arthur Loten, Ph.D., F.R.I.C. *Livesey Professor of Coal, Gas, and Fuel Industries, The University, Leeds 2.*
- 1947 ROBERTSON, Robert Hugh Stannus, M.A., F.G.S. *Dunmore, Pitlochry, Perthshire.*
- 1955 ROBINSON, Stephen Clive, B.A.Sc., M.A.Sc., Ph.D., F.R.S.C. *Mineralogy and Geochemistry Division, Geological Survey of Canada, Ottawa, Ontario, Canada.*
- 1950 ROBSON, Douglas Arthur, M.Sc., F.G.S. *Dept. of Geology, King's College, University of Durham, Newcastle-upon-Tyne 2.*
- 1951 ROBSON, Geoffrey Robert, B.Sc. *Volcanological Research Dept., Regional Research Centre, I.C.T.A., Trinidad, British West Indies.*
- 1952 ROLFE, Bernard Nathan, B.S., M.S., Dr. *Technical Supervisor, Cities Service Research and Development Co., 920 East 3rd Street, Tulsa 20, Oklahoma, U.S.A.*
- 1946 ROOKSBY, Harold Percy, B.Sc., F.Inst.P. *1 Meadow Way, Wealdstone, Harrow, Middlesex.*
- 1947 ROSS, Clarence Samuel, A.B., A.M. *United States Geological Survey, Washington 25, D.C., U.S.A.*
- 1951 ROTH, Robert S., Ph.D. *13403 Dauphine Street, Silver Spring, Maryland, U.S.A.*
- 1947 ROWLAND, Richards Atwell, Ph.D., F.G.S.A. *3737 Bellaire Boulevard, Houston 25, Texas, U.S.A.*
- 1951 ROY, Rustum, B.Sc., M.Sc., Ph.D. *Earth Sciences Dept., Pennsylvania State University, University Park, Pennsylvania, U.S.A.*
- 1946 RUMSBY, Peter Lewis, B.Sc., A.R.C.S., A.I.M.M., F.G.S. *16 Clinton Avenue, East Molesey, Surrey.*
- 1902 †RUSSELL, Sir Arthur Edward Ian Montagu, Bart., M.B.E., Hon. D.Sc., *Swallowfield Park, Swallowfield, Reading, Berkshire.*
- 1948 RUTLAND, Ernest Hugo Charles, Ph.D., M.A. *14 Middleway, London N.W. 11.*
- 1955 RYBACK, George, B.A. *New College, Oxford.*
- 1945 SABINE, Peter Aubrey, B.Sc., Ph.D., A.R.C.S., F.G.S. *19 Beaufort Road, Ealing, London W. 5.*
- 1947 SADASHIVAIAH, Mysore Subbanna, M.Sc., Ph.D., D.I.C., F.G.S. *Professor of Geology, Karnatak University, Dharwar, Mysore State, India.*
- 1957 SAENZ, Irene Marianne Michaelis de, *Gabota 1308, Montevideo, Uruguay.*
- 1951 SAHAMA, Thure Georg. *Professor of Geochemistry, Institute of Geology, Snellmanink 5, Helsinki, Finland.*
- 1929 SAMPSON, Edward, C.E., M.Sc., D.Sc. *Professor of Geology, Princeton University, Guyot Hall, Princeton, New Jersey, U.S.A.*
- 1948 SANDRÉA, André Philippe, B.Sc., F.G.S. *Laboratoire de Minéralogie, Muséum National d'Histoire Naturelle, 61 rue de Buffon, Paris V, France.*
- 1957 SARJEANT, William Anthony Swithin, B.Sc., F.G.S. *47 Milton Road, Nether Edge, Sheffield 7.*
- 1931 SCHAIRES, John Frank, M.S., Ph.D. *Geophysical Laboratory, 2801 Upton Street, Washington 8, D.C., U.S.A.*
- 1957 SCHLOCKER, Julius, M.A., A.B. *U.S. Geological Survey, Engineering Geology Branch, 4 Homewood Place, Menlo Park, California, U.S.A.*
- 1955 SCHMIDT, Elias Rudolph, M.Sc. *c/o National Building Research Institute, C.S.I.R., P.O. Box 395, Pretoria, South Africa.*

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- 1948 SCHOFIELD, Robert Kenworthy, M.A., Ph.D., F.Inst.P. Reader in Soil Science, *Dept. of Agriculture, Parks Road, Oxford.*
- 1928 *SCHOLTZ, Douglas Leinster, D.Sc. Professor of Geology, *University of Stellenbosch, South Africa.*
- 1956 SCHULTZ, Lenoard Gene, Ph.D., M.S., B.S. *U.S. Geological Survey, Federal Center, Denver, Colorado, U.S.A.*
- 1943 SEAGER, Andrew Ford, B.Sc., Ph.D., A.K.C., F.G.S. *Chynhalls, Cabrera Avenue, Trumps Green, Virginia Water, Surrey.*
- 1949 SEGNIT, Edgar Ralph, M.Sc., Ph.D. *Dept. of Geology, Princeton University, Princeton, New Jersey, U.S.A.*
- 1955 SERVOS, Kurt, B.Sc., M.Sc., A.I.M.E. *School of Mineral Sciences, Stanford University, Stanford, California, U.S.A.*
- 1950 SHAGAM, Reginald, B.Sc. *Dept. of Geology, Princeton University, Princeton, New Jersey, U.S.A.*
- 1948 SHAUB, Benjamin Martin. Professor of Geology, *Smith College, Northampton, Massachusetts, U.S.A.*
- 1949 SHEARMAN, Douglas James, B.Sc., F.G.S. *5 Sackville Road, Southend-on-Sea, Essex.*
- 1956 SHIMAZAKI, Yoshihiko, B.Eng. *1005-4 Chome, Shimomeguro, Meguro-ku, Tokyo, Japan.*
- 1945 SHRIMPTON, Robert Dudley Sampson. 'Carrock', *Layters Way, Gerrards Cross, Buckinghamshire.*
- 1955 SIMCOCK, Joseph Henry. 'Cranford', *Lovatt Avenue, Milehouse, Newcastle-under-Lyme, Staffordshire.*
- 1957 SIMPSON, Brian, M.Sc., F.G.S., A.I.C.E. *Dept. of Geology, University College, Singleton Park, Swansea.*
- 1950 SIMPSON, Eric Stanley Wynne, M.Sc. *Dept. of Geology, University of Cape Town, Rondebosch, Cape Province, South Africa.*
- 1907 *SIMPSON (formerly Hilton), Harold, M.A., D.Sc. Formerly Professor of Mathematics in the University of London. *82B St. John's Road, Oxford.*
- 1956 SKELDING, Frank Hall. *c/o Parker Hammond, 11400 South Virginia Street, Reno, Nevada, U.S.A.*
- 1957 SKINNER, Brian John, B.Sc., A.M., Ph.D. *U.S. Geological Survey, G-218, G.S.A. Building, Washington 25, D.C., U.S.A.*
- 1948 SMITH, Arnold Nigel, B.A. *c/o Messrs. Pilkington's Tiles Ltd., Clifton Junction, Manchester.*
- 1958 SMITH, Deane Kingsley, Jr., B.S., Ph.D. *124 Ames Rd., Silver Spring, Maryland, U.S.A.*
- 1958 SMITH, Frank Steeley. *46 Dundonald Road, Cheadle Hulme, Cheshire.*
- 1958 SMITH, James Robert, B.Sc., M.Sc., Ph.D. *Dept. of Geology, University of Saskatchewan, Saskatoon, Saskatchewan, Canada.*
- 1954 SMITH, Joseph Victor, M.A., Ph.D. *Mineral Sciences Building, The Pennsylvania State University, University Park, Pennsylvania, U.S.A.*
- 1956 SMITH, Robert Leland, B.S. *U.S. Geological Survey, Washington 25, D.C., U.S.A.*
- 1910 *SMITH, Walter Campbell, Lt.-Col., C.B.E., M.C., T.D., M.A., Sc.D., F.G.S. Formerly Keeper of Minerals, *British Museum (Natural History), Cromwell Road, London S.W. 7.*
- 1943 SMITHSON, Frank, D.Sc., F.R.M.S., F.G.S. *University College of North Wales, Memorial Buildings, Bangor.*

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- 1954 SNELLING, Norman John, B.Sc., M.Sc., Ph.D., F.G.S. *Canadian Geological Survey (Isotope Geology Section), 541 Sussex Street, Ottawa, Ontario, Canada.*
- 1940 SOPER, Henry Robert, B.Sc., A.R.C.S. *Brierley House, Radcliffe New Road, Whitefield, Manchester.*
- 1894 †SPENCER, Leonard James, C.B.E., B.Sc., M.A., Sc.D., F.R.S. *Formerly Keeper of Minerals in the British Museum. 111 Albert Bridge Road, London S.W.11.*
- 1958 SPOTTS, John Hugh, B.A., M.A., M.Sc. *231 N. Dos Caminos, Ventura, California, U.S.A.*
- 1944 STEEN, Charles A. *Utex Exploration Co., Box 387, Moab, Utah, U.S.A.*
- 1954 STEGER, Eric Helmut, B.Sc., F.G.S. *16 Lingfield Road, London S.W. 19.*
- 1955 STEINER, Alfred. *New Zealand Geological Survey, P.O. Box 368, Lower Hutt, New Zealand.*
- 1947 STEPHEN, Isaac, B.Sc. *Pedology Dept., Rothamsted Experimental Station, Harpenden, Hertfordshire.*
- 1954 STEVENS, Robert Denzil, B.Sc., F.G.S. *Canadian Geological Survey (Isotope Geology Section), 541 Sussex Street, Ottawa, Ontario, Canada.*
- 1947 STEVENS, Rollin Elbert, A.B., A.M. *United States Geological Survey, Geochemistry and Petrology Branch, Denver Federal Center, Denver, Colorado, U.S.A.*
- 1940 STEWART, Frederick Henry, B.Sc., Ph.D., F.G.S. *Grant Institute of Geology, King's Buildings, West Mains Road, Edinburgh.*
- 1953 STEYN, Johannes Gottfried Drotsky, M.Sc., D.Sc. *1110 South Street, Hatfield, Pretoria, Union of South Africa.*
- 1923 STILLWELL, Frank Leslie, D.Sc., *44 Elphin Grove, Hawthorne, Victoria, Australia.*
- 1958 STIMSON, Arthur. *c/o The Anchorage, Three Mile Cross, Reading.*
- 1953 STRUNZ, Hugo, D.Ph., D.Sc. *Professor, Institut für Mineralogie und Petrographie der Technischen Universität, Hardenbergstraße 35, Berlin-Charlottenburg 2, Germany.*
- 1926 STUART, Alan, M.Sc., F.G.S., F.R.M.S. *Professor of Geology, The University, New Arts Building, Queen's Drive, Exeter.*
- 1958 STUART, John William, A.B., M.A. *Dept. of Geology, University of Chicago, Chicago, Illinois, U.S.A.*
- 1956 STUMPFL, Eugen, Dr. *Geology Dept., University College, Gower Street, London W.C. 1.*
- 1951 SUBRAMANIAM, Anantharama Parameswara, M.Sc., A.M., Ph.D., F.G.S. *Geological Survey of India, Madras 4, India.*
- 1958 SUNAGAWA, Ichiro, D.Sc. *Physics Dept., Royal Holloway College, Englefield Green, Surrey.*
- 1950 SUTTON, John, B.Sc., Ph.D., A.R.C.S., F.G.S. *Geology Dept., Imperial College of Science and Technology, London S.W. 7.*
- 1928 SWEET, (Miss) Jessie May, B.Sc. *Dept. of Mineralogy, British Museum (Natural History), Cromwell Road, London S.W. 7.*
- 1952 SWINFORD, (Miss) Ada, S.B., S.M., F.G.S.A. *State Geological Survey, Lawrence, Kansas, U.S.A.*
- 1954 TAYLOR, Edward Drummond, Lieut.-Col., Més.Sc., F.G.S. *Old Burnside, Almonte, Ontario, Canada.*
- 1951 TAYLOR, Harry Francis West, B.Sc., Ph.D. *Dept. of Chemistry, The University, Old Aberdeen.*

Year of
Election.

- 1954 TAYLOR, James, B.Sc. *Geological Survey and Museum, Exhibition Road, London S.W. 7.*
- 1945 TAYLOR, James Haward, M.A., B.Sc., Ph.D., F.G.S. Professor of Geology, *King's College, Strand, London W.C. 2.*
- 1955 TAYLOR, Stuart Ross, M.Sc., Ph.D. *Dept. of Geology, University of Cape Town, Rondebosch, Cape Province, Union of South Africa.*
- 1938 TAYLOR, William Hodge, M.A., Ph.D., D.Sc., F.Inst.P. Reader in Crystallography, *Crystallographic Laboratory, Free School Lane, Cambridge.*
- 1951 TEICHNER, Stanislas Jean, Dr. *Institut de Chimie, 93 rue Pasteur, Lyon, France.*
- 1958 TETTENHORST, Rodney Tampa, B.S., M.A. *Dept. of Geology, University of Illinois, Urbana, Illinois, U.S.A.*
- 1946 THOMAS, Leslie Albert Arthur, B.Sc., F.Inst.P. *36 Blenheim Gardens, Wembley, Middlesex.*
- 1939 THOMAS, Richard Grenfell, B.Sc. *Council for Scientific and Industrial Research, Division of Industrial Chemistry, P.O. Box 4331, G.P.O., Melbourne, Victoria, Australia.*
- 1945 *THOMPSON, Robert Mitchell, M.A., Ph.D. Assistant Professor of Mineralogy, *University of British Columbia, Vancouver, Canada.*
- 1921 *TILLEY, Cecil Edgar, B.Sc., Ph.D., F.R.S. Professor of Mineralogy and Petrology, *Dept. of Mineralogy and Petrology, Downing Place, Cambridge.*
- 1951 TOLLIDAY, (Miss) Joan Margaret, M.A., F.G.S. *I.C.I. Akers Research Laboratory, The Frythe, Welwyn, Hertfordshire.*
- 1925 *TOMKEIEFF, Sergei Ivanovich, M.Sc., D.Sc., F.R.S.E., F.G.S. Professor of Petrology, *Dept. of Geology, King's College, University of Durham, Newcastle-upon-Tyne 2.*
- 1953 TOOKER, Edwin Wilson, Ph.D. *U.S. Geological Survey, 4 Homewood Place, Menlo Park, California, U.S.A.*
- 1958 TORRE DE ASSUNÇÃO, Carlos Fernando, Professor of Mineralogy and Petrology, *Museu e Laboratório Mineralógico e Geológico, Universidade de Lisbon, Lisboa, Portugal.*
- 1955 TOZER, Charles Fallows, B.Sc., A.R.C.S., F.G.S. *6 Devonshire Road, Cambridge.*
- 1927 *TRECHMANN, Charles Taylor, D.Sc., F.G.S., F.Z.S. '*Hudworth Tower*', *Castle Eden, Co. Durham.*
- 1939 TUNELL, George, Ph.D. Associate Professor of Geology, *University of California, 405 Hilgard Avenue, Los Angeles 24, California, U.S.A.*
- 1949 TURLEY, Tomasz Jerzy, Professor. *2149 North Bell Avenue, Chicago 47, Illinois, U.S.A.*
- 1951 TUTTLE, Orville Frank, Ph.D. *Mineral Industries Building, Pennsylvania State University, University Park, Pennsylvania, U.S.A.*
- 1947 UNMACK, (Miss) Augusta Marie, B.Sc. *Landbohøjskolens Kemiske Laboratorium, Bulowsvej 13, Copenhagen V, Denmark.*
- 1949 VALLANCE, Thomas George, B.Sc., Ph.D., F.G.S. *Dept. of Geology, University of Sydney, Sydney, New South Wales, Australia.*
- 1951 VANN, Alfred Ernest. *c/o Larino Ltd., 31/45 Gresham Street, London E.C. 2.*
- 1933 *VAUX, George, B.S., F.R.G.S. '*The Thicket*', *Bryn Mawr, Pennsylvania, U.S.A.*
- 1925 VENDL, Aladár, Ph.D. Professor, *Németvölgyi ut 70-72, Budapest XII, Hungary.*

Year of
Election.

- 1952 VENKATRAM, Manjeri Sundaram, B.A., B.L. *Geological Survey of India, 27 Chowringhee, Calcutta 13, India.*
- 1946 VINCENT, Ewart Albert, M.A., B.Sc., Ph.D., F.R.I.C., F.G.S. Reader in Mineralogy, *Dept. of Geology and Mineralogy, University Museum, Oxford.*
- 1955 VINCENT, Herbert Cubitt Gostling, M.A., A.R.I.C., M.Inst.P., F.G.S. *Dept. of Mineralogy and Geology, University of Cape Town, South Africa.*
- 1953 VISWANATHAN, Padmanabha. Chief Chemist, *Travancore Minerals Concerns, Chavara P.O., Quilon, South India.*
- 1958 WADSWORTH, Wilfred John, B.A., F.G.S. *Dept. of Geology and Mineralogy, University Museum, Oxford.*
- 1930 WAGER, Lawrence Rickard, M.A., Sc.D., B.Sc., F.R.S. Professor of Geology, *Dept. of Geology and Mineralogy, University Museum, Oxford.*
- 1949 WAHL, Walter (Andre), Professor. *Observatoriegatan 8, Helsinki, Finland.*
- 1953 WAKELIN, Richard John, B.Sc., Ph.D., A.Inst.P. *United Kingdom Atomic Energy Authority, Atomic Weapons Research Establishment, Aldermaston, Berkshire.*
- 1930 *WALKER, Frederick, M.A., Ph.D., D.Sc., F.R.S.E., F.G.S. Professor of Mineralogy and Geology, *Geology Dept., Queen's College, Dundee, Scotland.*
- 1947 WALKER, George Forbes, B.Sc., Ph.D. *Division of Industrial Chemistry, Commonwealth Scientific and Industrial Research Organization, Box 4331, G.P.O., Melbourne, Australia.*
- 1950 WALKER, George Patrick Leonard, B.Sc., M.Sc., F.G.S. *Dept. of Geology, Imperial College of Science and Technology, London S.W. 7.*
- 1936 WALLS, Robert, M.Sc., Ph.D., F.G.S. *c/o British Petroleum Co. Ltd., Exploration Research Laboratory, Cadbury Road, Sunbury-on-Thames, Middlesex.*
- 1942 *WALSH, Raymond Collinge. *c/o Standard Bank of South Africa, West Street, Durban, Natal.*
- 1950 WALTON, Ewart Kendall, B.Sc., Ph.D. *20 Durham Drive, Portobello, Midlothian, Scotland.*
- 1946 WARREN, Harry Verney, D.Ph., F.R.S.C. Professor of Mineralogy and Petrology, *University of British Columbia, Vancouver 8, Canada.*
- 1947 WATT, David Scott, M.A., B.Sc., F.G.S. *13 Pennan, Fraserburgh, Aberdeenshire.*
- 1955 WATTERS, Willham Asher, M.Sc., F.G.S. *c/o New Zealand Geological Survey, P.O. Box 368, Lower Hutt, New Zealand.*
- 1929 WAYLAND, Edward James, C.B.E., A.R.C.S., M.I.M.M., F.G.S. Formerly Director of the Geological Survey of Uganda, *Kiwala Hotel, P.O. Box 61, Masaka, Uganda.*
- 1953 WEAVER, Charles Edward, B.S., M.S., Ph.D. *Shell Development Co., Exploration and Production Laboratory, 3737 Bellaire Boulevard, Houston 25, Texas, U.S.A.*
- 1943 WEBSTER, Robert. *209 The Broadway, Wimbledon, London S.W. 19.*
- 1952 WEEDON, Douglas Stanley, M.A. *c/o Dept. of Geology, University Museum, Oxford.*
- 1956 WEIR, Alan Herbert, B.A. *42 Park Rise, Harpenden, Hertfordshire.*
- 1953 WEISS, E. Joseph, Ph.D., *105 C.P. Hall, Dept. of Ceramic Engineering, University of Texas, Austin, Texas, U.S.A.*
- 1929 WELLS, Alfred Kingsley, D.Sc., F.G.S. Formerly Reader in Geology in the University of London. *114 Queen's Road, Buckhurst Hill, Essex.*

Year of
Election.

- 1945 WELLS, Maurice Kingsley, M.Sc., Ph.D., F.G.S. *Dept. of Geology, University College, Gower Street, London W.C. 1.*
- 1951 WEST, Herbert William Harcourt, B.Sc., F.G.S. *68 Reeves Avenue, Newcastle-under-Lyme, Staffordshire.*
- 1929 WEST, William Dixon, C.I.E., M.A., Sc.D., F.G.S. Formerly Director of the Geological Survey of India. *Dept. of Geology, University of Saugar, Sagar (M.P.), India.*
- 1950 WESTOLL, Thomas Stanley, Ph.D., D.Sc., F.R.S.E., F.G.S. Professor of Geology, *King's College, University of Durham, Newcastle-upon-Tyne 2.*
- 1947 WHITE, James, D.Sc., Ph.D. *70 Blyth Road, Worksop, Nottinghamshire.*
- 1954 WHITE, Joe Lloyd, B.S., M.S., Ph.D. *Agronomy Dept., Purdue University, Lafayette, Indiana, U.S.A.*
- 1951 WHITE, W. Arthur, B.S., M.S. *Illinois State Geological Survey, 107 Natural Resources Building, Urbana, Illinois, U.S.A.*
- 1947 WHITING, Gilbert Harry, B.A., Ph.D. *London Brick Co. Ltd., Stewartby, Bedford.*
- 1949 WHITTAKER, Eric James William, M.A., B.Sc. *Ling Crag, Buxton Road, Chinley, Stockport, Cheshire.*
- 1944 WHITTEN, Douglas Gilbert Alban, B.Sc., A.R.C.S., F.G.S. *297 Lower Morden Lane, Morden Park, Surrey.*
- 1948 WHITTEN, Eric Harold Timothy, B.Sc., Ph.D., F.G.S. Professor, *Geology Dept., Northwestern University, Evanston, Illinois, U.S.A.*
- 1947 *WICKMAN, Frans Erik. Professor, *Riksmuseum, Stockholm 50, Sweden.*
- 1953 WIGGINS, Thomas Joseph. 'Cartref', *Bryn Farm, Brynmawr, Breconshire.*
- 1942 WIGGLESWORTH, Robert, M.B., B.S. *Cranford, Nr. Kettering, Northamptonshire.*
- 1918 WILCOCKSON, William Howson, M.A., F.G.S. *Dept. of Geology, The University, St. George's Square, Sheffield 1.*
- 1956 WILKINSON, John Frederick George, B.Sc., Ph.D. *Dept. of Geology, University of New England, Armidale, New South Wales.*
- 1949 WILKINSON, Peter, B.Sc., A.R.C.S., F.G.S., F.R.G.S. *Dept. of Geology, The University, St. George's Square, Sheffield 1.*
- 1938 WILLIAMS, David, D.Sc., Ph.D., B.E., M.I.M.M., F.G.S. Professor of Mining and Geology, *Imperial College of Science and Technology, London S.W. 7.*
- 1958 WILLIAMS, Scott John, B.A. *2346 South Scottsdale Road, Scottsdale, Arizona, U.S.A.*
- 1950 WILLIAMSON, William Owen, B.Sc., Ph.D., A.R.I.C. *G.P.O. Box 4331, Melbourne, Victoria, Australia.*
- 1950 WILSON, Allan Fraser, D.Sc., F.G.S., F.G.A.A. *Dept. of Geology, University of Western Australia, Nedlands, Western Australia.*
- 1949 WILSON, Arthur James Cochran, M.Sc., Ph.D., F.Inst.P. Professor of Physics, *University College, Cardiff.*
- 1950 WINCHELL, Horace, A.B., A.M., Ph.D. Professor, *Dept. of Geology, Yale University, New Haven, Connecticut, U.S.A.*
- 1948 WINKLER, Helmut Gustav Franz, D.Ph. Professor, *Mineralogisches Institut, Deutschhausstraße 10, Marburg/Lahn 16, Germany.*
- 1942 WISDEN, (Miss) Dorothy Ethel, M.Sc., F.G.S. *Dept. of Geology, University College, Southampton.*

Year of
Election.

- 1955 WISE, William Stewart, B.Sc. 5318 Norwood Avenue, Baltimore 7, Maryland, U.S.A.
- 1934 *WISEMAN, John Dugdale Holt, M.A., Ph.D., F.G.S. Dept. of Mineralogy, British Museum (Natural History), Cromwell Road, London S.W. 7.
- 1952 *WITTE, Georges Camille Gaston Marie De. 20 Nieuwstraat, Wieze, Belgium.
- 1927 WOOSTER, William Alfred, M.A., Ph.D., D.Sc. Dept. of Mineralogy and Petrology, Downing Place, Cambridge.
- 1958 *WRIGHT, Hedley Gordon, M.A., F.G.S. Dept. of Geology, Queen's College, Dundee, Angus.
- 1957 WRIGHT, John Bucknall, B.A., F.G.S. c/o Mines and Geology Dept., Nairobi, Kenya.
- 1958 WYLLIE, Peter John, B.Sc., Ph.D. Dept. of Geophysics and Geochemistry, College of Mineral Industries, Pennsylvania State University, University Park, Pennsylvania, U.S.A.
- 1952 *YODER, Hatten Schuyler, Jr., S.B., Ph.D. Geophysical Laboratory, 2801 Upton Street, Washington 8, D.C., U.S.A.
- 1951 YOUELL, Ronald Frederick, B.Sc., A.R.C.S. Physics Dept., The University, Leeds 2.
- 1958 YOUNG, Brian Bayley, B.Sc., A.R.S.M. Mining Geology Research, Royal School of Mines, Prince Consort Road, London S.W. 7.
- 1955 YOUNG, Brian Raymond, F.G.S. Geological Survey and Museum, Exhibition Road, London S.W. 7.
- 1941 ZODAC, Peter. Box 29, Peekskill, New York, U.S.A.
- 1957 ZAGLOUL, Zaki Mohammed, B.Sc., M.Sc. Geology Dept., The University, Bristol 8.
- 1953 ZUSSMAN, Jack, M.A., Ph.D. Dept. of Geology, The University, Manchester 13.

NEW MEMBERS, JANUARY 1959

- 1959 BROWN, Thomas Edwards, B.S., M.A. c/o American Overseas Petr., Posta Kutusu 1105, Ankara, Turkey.
- 1959 CARPENTER, Alden Bliss, A.B. 94 Pleasant Street, Lexington 73, Massachusetts, U.S.A.
- 1959 DAWSON, John Barry, B.Sc. Dept. of Geology, The University, Leeds 2.
- 1959 DEARNLEY, Raymond, B.Sc., F.G.S. 56 Estcourt Avenue, Leeds 6.
- 1959 HARVEY, Jill Raymonde, B.Sc. Royal School of Mines, Prince Consort Road, London S.W. 7.
- 1959 MAILLOUX, Auguste, B.S.A., L.Sc. Faculté d'Agriculture, Ste-Anne-de-la-Pocatière, Kamouraska, Quebec, Canada.
- 1959 MITRA, Satya Prio, M.Sc., D.Phil. Dept. of Pedology, Rothamsted Experimental Station, Harpenden, Hertfordshire.
- 1959 WOERMANN, Eduard. Hauptstraße 55, Heidelberg, Germany.
- 1959 WYLEY, John Fitzthomas. 126 Merry Hill Road, Bushey, Hertfordshire.

PROCEEDINGS
OF THE
MINERALOGICAL SOCIETY
(1958)

EXCERPT MINUTES OF COUNCIL MEETING

*Held in the Apartments of the Geological Society, Burlington House,
London W., 23 January 1958, at 3.15 p.m.*

Prof. C. E. TILLEY, President, in the Chair.

The following were provisionally elected Ordinary Members of the Society: Donald Armstrong, Fred Donald Bloss, Jeffrey Raymond Farlam, John Alan Gard, Emilie Jäger, Mir-Ali Kashkay, Diane Constance Knill, Eugen Constantinovich Lazarenko, Roger Walter Le Maitre, Margaret Longstaff, David Blair Orr, Valeri Petrovich Petrov, Daniel Hittjo Porrenga, Brian Bailey Young.

The death of Dr. Felix Singer was reported.

The resignations of Mr. B. Butterworth, Dr. J. T. Greensmith, Dr. D. N. McArthur, Mr. G. M. Puckle, and Dr. K. H. Wheatley were accepted.

Reports were received from the Treasurer, the Editors, the Clay Minerals Group, and the Editorial Committee on Mineralogical Abstracts.

The Council's appreciation of Dr. Henry's work as Abstract Editor was recorded, and the recommendation to appoint Dr. J. Phemister as editor of the proposed new *Mineralogical Abstracts* was approved. It was reported that the Mineralogical Society of America had authorized a contribution of £500 towards the initial expenses of the new *Mineralogical Abstracts*, and had appointed a committee to co-operate with the British committee on mineralogical nomenclature.

The nominations of the President as delegate, and of the Secretary and the Abstracts Editor as alternative delegates to the proposed inaugural meeting of the International Mineralogical Association in Madrid during the week commencing 6 April 1958 were approved.

The appointment of the President as the Society's representative on the committee for the International Congress of Crystallography in Cambridge in 1960 was confirmed.

The Society's exemption from rates, effective from the date of occupation of its present premises, was reported.

The decision to reprint the first and second Supplementary Lists of British Minerals with the Third supplementary list of British minerals, by Dr. L. J. Spencer, was approved.

The appointment of Miss H. E. W. Leigh as Publications Clerk was reported.

GENERAL MEETING

*Held in the Apartments of the Geological Society, Burlington House,
London W., 23 January 1958, at 5 p.m.*

Prof. C. E. TILLEY, President, in the Chair.

Forty-four Members and eight Visitors were present.

The elections of fourteen Ordinary Members of the Society provisionally made by the Council were confirmed.

The following exhibits were shown:

1. Tertiary picritic rocks from Ubekendt Ejland (West Greenland) and the Hebrides: by Dr. H. I. Drever.
2. Two minerals new to Britain: hübnerite and adamite: by Mr. A. W. G. Kingsbury.
3. The application of X-ray micro-absorption spectroscopy to mineralogical problems: by Mr. J. V. P. Long and Dr. J. D. C. McConnell.

The following papers were read and discussed:

1. A re-examination of andrewsite: by Dr. G. F. Claringbull and Dr. M. H. Hey.

2. An X-ray technique for the study of oriented intergrowths in pyroxene crystals: by Dr. M. G. Bown and Dr. P. Gay.

By X-ray methods it is possible to identify oriented intergrowths of minor components in 'single' crystals. The techniques developed have been applied to pyroxene crystals. Results are presented for the orientation and identification of augite, pigeonite, and orthopyroxene in poly-phase crystals. Inclusions of magnetite, ilmenite, and amphibole can also be characterized.

3. The formation of supergene galena at Broken Hill, Northern Rhodesia: by Prof. J. H. Taylor (vol. 31, p. 908).

4. Analysis of meteoritic irons: by Dr. M. H. Hey and Dr. A. A. Moss.

A procedure for the determination of C, S, P, Ge, Co, Ni, Cr, Cu in meteoritic irons has been worked out. Separation of Fe, Ge, S, and P is achieved by passing a stream of dry chlorine over a piece (0.5 g.) of meteorite at 350°–400° C., whereby these elements are volatilized as their chlorides. The distillate is examined for Ge, S, and P, and the residue treated with dilute sulphuric acid to dissolve the chlorides of Co, Ni, Cr, and Cu, leaving the carbon as an insoluble residue. The Co, Ni, Cr, and Cu in the solution is determined by a combination of electrolytic, colorimetric, and gravimetric methods.

The following papers were taken as read:

1. Further consideration of the crystal structure of kaolinite: by Dr. G. W. Brindley and Mr. M. Nakahira (vol. 31, p. 781).
2. The system diopside-anorthite-âkermanite: by Dr. E. Christiaan de Wys and Dr. Wilfred R. Foster (vol. 31, p. 736).

EXCERPT MINUTES OF COUNCIL MEETING

*Held in the Apartments of the Geological Society, Burlington House,
London W., 27 March 1958, at 3.15 p.m.*

Prof. C. E. TILLEY, President, in the Chair.

The following were provisionally elected Ordinary Members of the Society: Alexander James Beveridge, Richard Conrad Emmons, Laurence Bowes Halferdahl, Bernard Elgey Leake, James Robert Smith, Rodney Tampa Tettenhorst.

The death of Mr. William James Dunstall was reported.

The resignations of Dr. J. M. Carr, Mr. W. G. Collins, Mr. A. E. Pickles, and Mr. R. Brooks were accepted.

The names of Mr. J. H. Christie and Dr. R. S. Mithal were removed from the list of members for non-payment of subscriptions.

Reports were received from the Treasurer, the Editors, the Clay Minerals Group, and the Editorial Committee on Mineralogical Abstracts. The Treasurer presented the audited accounts for 1957, which were approved (vol. 31, pp. lxxvi-lxxix).

Nominations for election to the Council were considered. The following Ordinary Members of Council were due to retire: Prof. W. A. Deer, Mr. J. E. T. Horne, Dr. R. C. Mackenzie, and Dr. E. A. Vincent. The following were proposed for election as Ordinary Members of Council at the Anniversary Meeting in November 1958: Dr. R. A. Howie, Prof. F. H. Stewart, Dr. J. R. Butler, and Mr. R. F. Youell.

Dr. Campbell Smith's report on his attendance at the Geological Conservation Committee Liaison Meeting with Nature Conservancy on 6 March 1958 was noted.

The exchange with the Institute of Scientific Information, Academy of Sciences of the USSR, Moscow, of their journals, *Геохимия* and *Записки Всесоюзного Минералогического Общества* for the *Mineralogical Magazine* was agreed, subject to reasonable reciprocity.

GENERAL MEETING

*Held in the Apartments of the Geological Society, Burlington House,
London W., 27 March 1958, at 5 p.m.*

Prof. C. E. TILLEY, President, in the Chair.

Thirty Members and three Visitors were present.

The elections of six Ordinary Members of the Society provisionally made by the Council were confirmed.

The following exhibits were shown:

1. Metamorphosed bole, lithomarge, and ferruginous bauxite from Tievebulliagh, near Cushendal, Co. Antrim: by Dr. S. O. Agrell.
2. Model of the crystal structure of botallackite: by Mr. P. G. Embrey.

The following papers were read and discussed:

1. Bonchevite, PbBi_4S_7 , a new mineral: by Prof. Ivan Kostov (vol. 31, p. 821).
2. The infra-red spectra of talc, saponite, and hectorite: by Mr. V. C. Farmer (communicated by Dr. R. C. Mackenzie) (vol. 31, p. 829).
3. The mineral paragenesis and metamorphic status of garnet-hornblende-pyroxene-scapolite gneiss from Ghana (Gold Coast): by Dr. O. von Knorring and Prof. W. Q. Kennedy (vol. 31, p. 846).
4. Minium from Broken Hill, New South Wales: by Dr. Brian J. Skinner and Miss E. Maud McBriar (vol. 31, p. 947).

EXCERPT MINUTES OF COUNCIL MEETING

*Held in the Apartments of the Geological Society, Burlington House,
London W., 5 June 1958, at 3.15 p.m.*

Prof. C. E. TILLEY, President, in the Chair.

The following were provisionally elected Ordinary Members of the Society: Wayne Miley Bundy, Richard John Davis, Donald Munro Henderson, Bruce Clifford Hicks, Kai Kalevi Gabriel Hytönen, John Brett Jones, John Laurence Kulp, Jose Lima-de-Faria, Arthur Stimson, Ichiro Sunagawa, Carlos Fernando Torre de Assunção, Wilfred John Wadsworth, Scott John Williams.

The death of the Rev. Canon Arthur Frederick Smethurst was reported.

Reports were received from the Treasurer, the Editors, the Clay

Minerals Group, and the Editorial Committee on Mineralogical Abstracts, whose proposals were confirmed.

It was agreed that the price per single copy of the *Mineralogical Magazine*, excluding *Mineralogical Abstracts*, be reduced from 25s. to £1 from 1 January 1959. The price of the combined *Magazine* and *Abstracts* back numbers, up to December 1958, would remain unchanged at 25s.

A report by the President on his and the Abstracts Editor's attendance as delegates at the inaugural meeting of the International Mineralogical Association in Madrid in April was received.

GENERAL MEETING

*Held in the Apartments of the Geological Society, Burlington House,
London W., 5 June 1958, at 5 p.m.*

Prof. C. E. TILLEY, President, in the Chair.

Forty-six Members and four Visitors were present.

The elections of thirteen Ordinary Members of the Society provisionally made by the Council were confirmed.

The following papers were read and discussed:

1. A preliminary account of the dolerite-chalk contact at Ballycraigy, Larne, Northern Ireland: by Dr. J. D. C. McConnell.

The contact relationships between a composite dolerite plug and chalk at Ballycraigy are described. Evidence of high-temperature thermal metamorphism and hybridization is presented.

In general the hybrid rocks developed at the contact are closely similar to those described from Scawt Hill, but at one point on the excavated conduit wall a unique series of hybrid rocks is developed. The hybrid rocks comprise a narrow sheath on the external surface of a detached block of highly metasomatized chalk. This localized group of hybrid rocks is heterogeneous, and carries magmatic olivine. A sequence of metasomatic reactions is evidenced within the local hybrid rocks. This involves the production of melilite, and later, monticellite, at the expense of olivine.

2. A hydrated barium-strontium pyrochlore in a biotite rock from Panda Hill, Tanganyika: by Dr. E. Jäger, Prof. E. Niggli, and Dr. A. H. van der Veen (vol. 32, p. 10).

3. The effect of composition and structural state on the rhombic section and pericline twins of plagioclase feldspars: by Dr. J. V. Smith (vol. 31, p. 914).

4. The fibrous zeolite erionite: its occurrence, unit cell, and possible structure: by Dr. Lloyd W. Staples and Dr. J. A. Gard.

The type locality for erionite has been identified and specimens compared with Eakle's original material. New determinations of the physical properties and chemical analysis have confirmed most of Eakle's published data. Correlation of X-ray powder and fibre rotation data with electron diffraction of single crystals has shown that the unit cell is hexagonal with a 13.26, c 15.12 Å., space-group $P31c$, $P\bar{3}1c$, $P6_3mc$, $P\bar{6}2c$, or $P6_3/mmc$, giving a calculated density of 2.07 and atomic cell contents $(Ca, Mg, Na_2, K_2)_{4.5}Al_9Si_{27}O_{72}.27H_2O$. Possible structures for the aluminosilicate framework are discussed.

5. Twenty-first list of new mineral names: by Dr. L. J. Spencer (vol. 31, p. 951).

The following papers were taken as read:

1. Variation of refractive index with ionization potential in some isostructural crystals: by Prof. L. H. Ahrens (vol. 31, p. 929).

2. Heat treatment of metamict euxenites, polymignites, yttrotantalites, samarksites, pyrochlores, and allanites: by Mr. J. Lima-de-Faria (vol. 31, p. 937).

EXCERPT MINUTES OF COUNCIL MEETING

*Held in the Apartments of the Geological Society, Burlington House,
London W., 6 November 1958, at 3 p.m.*

Dr. W. CAMPBELL SMITH, a Past President, in the Chair.

The following were provisionally elected Ordinary Members of the Society: John Hatfield Ashford, Leslie Vincent Ivan Berkin, Antonio Charles Bonanno, Neville Bradshaw, Edwin Kenneth Cundy, Arthur George Darnley, Bernard Gavin Docherty, John Alexander Drennan, Bernard William Evans, James Jeffrey Fawcett, John Gittins, Seymour Samuel Greenberg, Norman Henry Harbord, William Michael Lobjoit, Jennifer Kerry Lovering, Amal Majumdar, Michael John O'Hara, Paul Hubert Ribbe, Deane Kingsley Smith, John Hugh Spotts, John William Stuart, Hedley Gordon Wright, Peter John Wylie.

Prof. Henri Jean François Buttgenbach was provisionally elected an Honorary Member.

The deaths of Mr. Leslie Holt Cruden, Sir Douglas Mawson, and Prof. George Vibert Douglas were reported.

The resignation of Dr. H. van Olphen was accepted.

Reports were received from the Treasurer, the Editors, the Clay Minerals Group, and the Editorial Committee on Mineralogical Abstracts.

The resignation of Dr. N. F. M. Henry as Editor of *Mineralogical*

Abstracts from 31 December 1958 was accepted, and Dr. J. Phemister was appointed to succeed him.

Dr. Averil Lysaght's appointment as Assistant to the Editor was approved.

Dr. Campbell Smith reported on discussions of nomenclature with the committee appointed by the Mineralogical Society of America.

Dr. R. K. Harrison and Dr. J. R. Butler were appointed auditors of the Society's accounts for the year ending 31 December 1958.

The Council approved of the provisional figures submitted by the Treasurer as a basis for instituting a staff pension scheme.

The Secretary read the draft of the Annual Report of the Council for the past year and, with minor alterations, this was approved for presentation at the ensuing Anniversary Meeting.

GENERAL (ANNIVERSARY) MEETING

*Held in the Apartments of the Geological Society, Burlington House,
London W., 6 November 1958, at 5 p.m.*

Prof. L. R. WAGER, Vice-President, in the Chair.

Eighty-three Members and fifteen Visitors were present.

Alterations to Bye-laws 5 and 39, to make provision for the proposed increase of membership subscription to cover the future separate publications 'Mineralogical Magazine and Journal of the Society' and 'Mineralogical Abstracts' were adopted. These amendments are incorporated in the Bye-laws as printed on pp. ix and xiii of this volume.

The elections of twenty-three Ordinary Members and one Honorary Member of the Society provisionally made by the Council were confirmed.

The General Secretary read the following:

ANNUAL REPORT OF THE COUNCIL FOR 1957-8

Membership. The total membership on 31 October 1958 was 661 against 637 on 31 October 1957. Forty-four new members have been elected during the year, fourteen members have resigned, and the names of two members have been removed on account of arrears of subscription. The Society has lost by death four Ordinary Members. On 31 October 1958 the membership consisted of four Honorary Members and 657 Ordinary Members, of whom 68 are Life Members: 302 members are also members of the Clay Minerals Group.

Meetings. The total attendance at the four general meetings held during the session 1957-8 was 168 members and 20 guests, giving an average of 47 per meeting. At these meetings 19 papers were read, 6 were taken as read, and 7 exhibits shown.

At two meetings of the Clay Minerals Group, held in London and Brussels respectively, about 17 papers were read: the average attendance was 26 per meeting.

Publications. Three numbers of the *Mineralogical Magazine* have been issued

during the year, and the fourth (September 1958) is expected shortly. The four numbers 239-42 contain the Proceedings (13 pages), 28 papers, and 14 short communications in 374 pages, with 4 plates and 94 text-figures; and 786 abstracts (including 11 pages of authors' abstracts) and 36 book reviews in 256 pages.

Two numbers (18-19) of the *Clay Minerals Bulletin* have been issued during the year. The new edition of the X-ray monograph is proceeding.

Financial. The accounts for the calendar year 1957 are published in the June (1958) number of the Magazine. The excess of assets (exclusive of the Society's library and stock of publications) over liabilities at 31 December 1957 was £7,541. 9s. 11d. against £7,635. 15s. 0d. at the close of 1956. During 1957 expenditure from the General Fund exceeded income by £175. 4s. 2d.

Composition Fees to the value of £119. 18s. 4d. have been received and invested since the publication of the last annual report. The Society's holding of $4\frac{1}{2}\%$ British Electricity Stock 1967-69 has been increased by £211. 14s. 9d.

The two numbers of the *Mineralogical Magazine* and *Abstracts* issued since the beginning of 1958 have cost £1,456. 10s. 11d. (inclusive of authors' reprints). The cost of reprinting one number of the *Mineralogical Magazine* has amounted to £103. 5s. 0d. Sales of the Clay Minerals Group monograph on differential thermal analysis have amounted to £855. 2s. 1d. during the same period.

The balances at the Society's Bankers and in the Post Office Savings Bank on 31 October 1958 were: General Fund £4,358. 5s. 1d., Miers Memorial Fund £144. 1s. 8d.

General. (i) *Mineralogical Abstracts*: Arrangements have been completed with the Mineralogical Society of America to produce *Mineralogical Abstracts* as a separate publication, sponsored jointly by the two Societies, after completion in December of the current volume. Details have already been circulated to members.

(ii) *International Mineralogical Association*: At a meeting in Madrid in April this year, at which the President was the Society's delegate, the International Mineralogical Association was formed.

In March 1953 the Council proposed the formation of an association of national Mineralogical Societies, and therefore welcomes the formation of this international organization. The Society is represented on the Executive Council and on each of the four Commissions so far named.

On the proposal of Dr. S. O. Agrell, seconded by Dr. J. D. C. McConnell, the adoption of the Annual Report was carried unanimously.

A vote of thanks to the Geological Society for the use of the apartments during the past session was proposed by Prof. S. I. Tomkeieff, seconded by Dr. R. C. Mackenzie, and carried with acclamation.

The President read the following list of Officers and Council elected for the session 1958-9 in accordance with bye-law 20:

President. Prof. C. E. Tilley, B.Sc., Ph.D., F.R.S.

Vice-Presidents. Prof. L. R. Wager, M.A., Sc.D., B.Sc., F.R.S.; Dr. A. K. Wells, D.Sc., F.G.S.

Treasurer. Prof. J. H. Taylor, M.A., B.Sc., Ph.D., F.G.S.

General Secretary. Dr. G. F. Claringbull, B.Sc., Ph.D., A.Inst.P., F.G.S.

Foreign Secretary. Dr. L. J. Spencer, C.B.E., B.Sc., M.A., Sc.D., F.R.S.

Editor of the Journal. Dr. M. H. Hey, M.A., D.Sc.

Editor of Mineralogical Abstracts. Dr. N. F. M. Henry, B.Sc., M.A., Ph.D., F.G.S.

Ordinary Members of Council

Dr. G. M. Brown, M.A., D.Phil., B.Sc.,
F.G.S.

Dr. J. R. Butler, B.A., Ph.D.

Dr. H. I. Drever, B.Sc., Ph.D.,
F.R.S.E.

Mr. P. G. Embrey, B.Sc., M.A.,
A.R.I.C.

Dr. R. A. Howie, M.A., Ph.D., F.G.S.

Dr. R. J. W. McLaughlin, M.Sc.,
Ph.D.

Dr. A. F. Seager, B.Sc., Ph.D., A.K.C.,
F.G.S.

Prof. F. H. Stewart, B.Sc., Ph.D.,
F.G.S.

Prof. A. Stuart, M.Sc., F.G.S., F.R.M.S.

Dr. W. H. Taylor, M.A., Ph.D., D.Sc.,
F.Inst.P.

Prof. D. Williams, D.Sc., Ph.D., B.E.,
M.I.M.M., F.G.S.

Mr. R. F. Youell, B.Sc., A.R.C.S.

A vote of thanks to the retiring Members of Council was proposed by Mr. H. P. Rooksby, and seconded by Mr. L. A. Thomas.

The following exhibit was shown:

Mineralogical and petrological applications of X-ray emission micro-spectroscopy: by Dr. S. O. Agrell and Mr. J. V. P. Long.

The following papers were read:

1. Yoderite, a new hydrous magnesium iron aluminosilicate from Mautia Hill, Tanganyika: by Mr. D. McKie, with chemical analyses by Mr. A. J. Radford.

2. Some further heating experiments on natural titaniferous magnetites: by Mr. J. B. Wright (vol. 32, p. 32).

3. The transformation of tobermorite into xonotlite: by Dr. H. F. W. Taylor (vol. 32, p. 110).

4. The hydrothermal synthesis of tilleyite in a CO₂-deficient environment: by Dr. J. D. C. McConnell.

Hydrothermal experiments indicate that both spurrite and tilleyite are readily synthesized in a CO₂-deficient environment. The stability relationships of tilleyite are discussed.

5. A mineralogical application of X-ray absorption microspectroscopy: the hydration of larnite: by Mr. J. V. P. Long and Dr. J. D. C. McConnell (vol. 32, p. 117).

The following papers were taken as read:

1. The formation of a diffusion reaction skarn by pure thermal metamorphism: by Prof. W. Q. Kennedy (vol. 32, p. 26).

2. Delhayelite, a new silicate from the Belgian Congo: by Prof. Th. G. Sahama and Dr. Kai Hytönen (vol. 32, p. 6).

3. Helvine from a lithium pegmatite near Salisbury, Southern Rhodesia: by Dr. O. von Knorring (vol. 32, p. 87).

MINERALOGICAL

INCOME AND EXPENDITURE ACCOUNT

A. GENERAL

1957 £	INCOME	£	s.	d.	£	s.	d.
	Members' subscriptions—						
	Annual subscriptions	1178	15	11			
	Entrance fees	49	0	0			
1172					1227	15	11
	<i>Mineralogical Magazine and Abstracts—</i>						
	Advertisement fees	150	3	6			
	Sales	2655	13	7			
3976					2805	17	1
	Investment revenue—						
	Interest on investments	213	2	3			
	Post Office Savings Bank interest	42	16	6			
265					255	18	9
300	<i>Grant from Royal Society (Parliamentary Grant-in-aid for scientific publications)</i>				—	—	—
	Clay Minerals Group—						
	<i>Clay Minerals Bulletin:</i>						
	Subscriptions	194	19	0			
	Sales, including authors' reprints	223	10	2			
296					418	9	2
	Clay Minerals Monographs—						
	Sales: <i>X-ray Identification and Crystal Structures of Clay Minerals</i>	3	8	11			
	<i>The Differential Thermal Investigation of Clays</i>	998	10	7			
769					1001	19	6
12	<i>Glossary of Clay Trade Names</i> , sales				5	13	6
2	Interest on Bank Accounts (Harpenden and Cambridge).				10	13	5
1000	<i>Transfer from Publications Fund</i>				—	—	—
175	Balance, being excess of expenditure over income for the year				445	2	4
£7967					£6171	9	8

B. MIERS

		£	s.	d.
18	Investment revenue	17	13	2
1	Donation	1	1	0
£19		£18	14	2

SOCIETY

FOR THE YEAR ENDED 31 DECEMBER 1958

FUND

1957 £	EXPENDITURE	£ s. d.	£ s. d.
	<i>Mineralogical Magazine and Abstracts—</i>		
	Nos. 240–243:		
	Printing	2399 11 6	
	Illustrations	86 7 0	
	Authors' reprints	126 4 10	
	Distribution to members	95 9 10	
	Distribution to subscribers	113 11 5	
3095			2821 4 7
566	Reprinting Magazines Nos. 163, 166, 167, 168		470 12 6
	Editorial Expenses:		
	Magazine editor	62 16 9	
	Abstracts editor	173 14 10	
289			236 11 7
	Contribution to new joint <i>Mineralogical Abstracts</i>		500 0 0
	Meeting expenses—		
	Notices of meetings	97 0 3	
	General expenses in connexion with meetings	26 8 0	
112			123 8 3
	General expenses—		
	Office rental and house expenses	415 4 3	
	Clerical assistance	998 6 6	
	Printing and stationery	39 18 2	
	Postage and telephone	116 15 4	
	Sundry office expenses	46 13 7	
1644			1616 17 10
	Library binding charges		3 3 0
	Clay Minerals Group—		
	<i>Clay Minerals Bulletin:</i>		
	Printing Bulletins 18 and 19	234 0 0	
	Authors' reprints	35 0 0	
	Editorial expenses	31 17 8	
244			300 17 8
1941	<i>Monograph on the Differential Thermal Investigation of Clays</i>		— — —
	General expenses:		
	Meeting expenses	13 1 0	
	Office expenses	85 13 3	
76			98 14 3
—	Balance, being excess of income over expenditure for the year		— — —
7967			£6171 9 8

MEMORIAL FUND

	£ s. d.
Bank charges	2 8
19 Balance, being excess of income over expenditure for the year	18 11 6
£19	£18 14 2

April 1959 R. K. HARRISON }
J. R. BUTLER } Auditors

JAMES H. TAYLOR, Hon. Treasurer

MINERALOGICAL

BALANCE SHEET AS AT

A. GENERAL

1957 £	LIABILITIES	£ s. d.	£ s. d.	£ s. d.
	Fund Account—			
	Balance per Balance Sheet at 31 December 1957	6967 17 6		
	Add Composition Fees received	135 0 0		
			7102 17 6	
	Less Depreciation on office furniture and equip- ment	93 3 6		
	Excess of expenditure over income for year ended 31 December 1958	445 2 4		
			538 5 10	
6968				6564 11 8
1478	Publications Fund			1477 13 9
	Subscriptions, &c., received in advance—			
	Members' subscriptions and entrance fees		100 13 5	
	Subscriptions to <i>Clay Minerals Bulletin</i>		15 0	
95				101 8 5
	Sundry creditors—			
	Oxford University Press for Magazine No. 243 (estimated)		665 0 0	
	Colonna Press for reprinting Magazine No. 163		131 11 0	
	Royal Entomological Society for house expenses		40 4 3	
	Editors for sundry editorial expenses		135 1 10	
812				971 17 1
 £9353 				 £9115 10 11

B. MIERS

		£ s. d.	£ s. d.
	Fund Account—		
	Balance per Balance Sheet at 31 December 1957	573 12 5	
	Add Excess of income over expenditure for the year ended 31 December 1958	18 11 6	
574			
£574			592 3 11
			 £592 3 11

SOCIETY

31 DECEMBER 1958

FUND

1957	£	ASSETS	£ s. d.	£ s. d.
		Office furniture and equipment—		
		Original cost	931 14 6	
		Less Depreciation	304 14 2	
364				627 0 4
		Investments (at cost or as valued at 31 December 1951):		
		£2232. 9s. 3½ % War Stock 1952	1856 8 6	
		£753. 12s. 11d. 4 % Consolidated Stock 1957	694 4 9	
		£606. 4s. 6d. 4 % Funding Stock 1960-90	598 5 0	
		£250 3 % Savings Bonds 1960-70	216 17 6	
		£1013. 9s. 6d. 3 % Savings Bonds 1965-75	916 7 0	
		£100 3 % British Transport Stock 1978-88	77 0 0	
		£275 2½ % Consolidated Stock	169 2 6	
		£261. 12s. 6d. 3½ % Treasury Stock 1977-80	244 8 3	
		£1058. 9s. 11d. 4½ % British Electricity Stock 1967-69	1005 17 3	
5583				5778 10 9
		Note:—The total market value of the above investments at 31 December 1958 was £4967. 15s. 10d.		
		Deposits—		
1914		Balance with Post Office Savings Bank		1756 14 4
		Subscriptions, &c., in arrears—		
		Members' subscriptions	64 11 0	
		Subscriptions to <i>Clay Minerals Bulletin</i>	13 0 0	
51				77 11 0
		Sundry debtors—		
		Authors for reprints from <i>Clay Minerals Bulletin</i>	25 5 0	
		Purchasers of <i>Clay Minerals Bulletin</i>	100 16 6	
43				126 1 6
		Cash—		
		Coutts & Co., London	35 8 11	
		Barclays Bank, Harpenden	605 8 5	
		Cambridge & District Trustee Savings Bank	86 10 10	
		Cash in hand, London	20 0 0	
		„ Harpenden	2 4 10	
7398				749 13 0
7353				£9115 10 11
		Note:—The value of the Society's library and stock of publications is not included in the above assets.		

MEMORIAL FUND

		£ s. d.
	Investments (at cost)—	
440	£504. 17s. 4d. 3½ % War Stock 1952	439 7 0
	Note:—The total market value of the above investment at 31 December 1958 was £335. 14s. 9d.	
7134	Cash—Coutts & Co., London	152 16 11
574		£592 3 11

April 1959 R. K. HARRISON } Auditors
J. R. BUTLER }

JAMES H. TAYLOR, Hon. Treasurer

MINERALOGICAL SOCIETIES OF

MINERALOGICAL ABSTRACTS

INCOME AND EXPENDITURE ACCOUNT FOR THE THREE MONTHS ENDED 31 DECEMBER 1958

EXPENDITURE				£	s.	d.
Editor's Honorarium October–December 1958	.	.	.	100	0	0
Various notices relating to Abstracts	.	.	.	31	13	10
General editorial expenses	.	.	.	27	12	6
Printing <i>Instructions, Symbols, and Abbreviations</i>	.	.	.	59	18	0
				<u>£219</u>	<u>4</u>	<u>4</u>

INCOME

Excess of expenditure over income for 3 months October–December						
1958	.	.	.	.	.	.
				<u>£219</u>	<u>4</u>	<u>4</u>

March 1959
 R. K. HARRISON } Auditors
 JAMES H. TAYLOR, Hon. Treasurer
 J. R. BUTLER }

GREAT BRITAIN AND AMERICA

MINERALOGICAL ABSTRACTS

BALANCE SHEET AS AT 31 DECEMBER 1958

ASSETS										£	s.	d.
Office furniture and equipment (at cost)	.	.	.	.	.	.	.	.	.	51	19	11
Balance at Bank—Coutts & Co., London	.	.	.	.	.	.	.	.	.	772	16	5
										£824	16	4
LIABILITIES												
Contribution from Mineralogical Society of Great Britain	.	.	.	.	.	.	.	.	.	500	0	0
Contribution from Mineralogical Society of America	.	.	.	.	.	.	.	.	.	500	0	0
										1000	0	0
<i>Less</i> Excess of expenditure over income for 3 months October–December 1958	.	.	.	.	.	.	.	.	.	219	4	4
										780	15	8
Subscriptions received in advance	.	.	.	.	.	.	.	.	.	44	0	8
										£824	16	4

PROCEEDINGS
OF THE
MINERALOGICAL SOCIETY
(1959)

EXCERPT MINUTES OF COUNCIL MEETING

*Held in the Apartments of the Geological Society, Burlington House,
London W., 29 January 1959, at 3.15 p.m.*

Prof. C. E. TILLEY, President, in the Chair.

The following were provisionally elected Ordinary Members of the Society: Thomas Edwards Brown, Alden Bliss Carpenter, John Barry Dawson, Raymond Dearnley, Auguste Mailloux, Jill Raymonde Harvey, Satya Prio Mitra, Eduard Woerman, John Fitzthomas Wyley.

The death of Dr. Francis Elizabeth Somerville Alexander was reported.

The resignations of Mr. C. W. Spencer, Dr. F. Jones, Mr. J. C. C. Romans, Mr. G. Snowball, Mr. W. C. C. Rose, Mr. S. L. Toyn, Mme Sandra, and Mr. A. Baker were accepted.

Reports were received from the Treasurer, the Editors, and the Clay Minerals Group; and the Group's projected publication of a pamphlet on Clay mineralogy of British sedimentary rocks and of an Electron-optical monograph were considered.

The remission of subscription on completion of 45 years' fully-paid membership by Dr. A. M. Macgregor, Dr. W. F. P. McLintock, and Miss M. W. Porter was confirmed, and Miss Porter's donation to the Society of £8, her refunded subscription, was allocated to the Miers Memorial Fund.

The Council recommended that, pending further negotiation, the mineral names proposed by Dr. Campbell Smith and Dr. Hey for use in *Mineralogical Abstracts* be used. It was reported that the initial contribution of £500 from the Mineralogical Society of America towards the cost of *Mineralogical Abstracts* had been received.

The appointment of Miss J. M. Harris as Publications Clerk was reported.

GENERAL MEETING

*Held in the Apartments of the Geological Society, Burlington House,
London W., 29 January 1959 at 5 p.m.*

Prof. C. E. TILLEY, President, in the Chair.

Thirty-six Members and eight Visitors were present.

The elections of nine Ordinary Members of the Society provisionally made by the Council were confirmed.

The following exhibit was shown:

Colour photomicrographs of sulphide minerals from the Skaergaard Intrusion, East Greenland: by Dr. E. A. Vincent.

The following papers were read and discussed:

1. Stevensite from the Whin Sill in the region of the North Tyne: by Mr. B. A. O. Randall (vol. 32, p. 218).

2. Delorenzite is tanteuxenite: by Dr. J. R. Butler and Mr. P. G. Embrey (vol. 32, p. 308).

3. A differentiated boss of alkali dolerite from Cnoc Rhaonastil, Islay: by Dr. F. Walker and Dr. E. M. Patterson (vol. 32, p. 140).

4. Contributions to the theory of alumino-silicate glasses, with especial reference to the properties and structure of vitreous rocks of igneous origin: by Dr. E. D. Lacy.

The oxygen packing of obsidians is directly comparable with that of glasses prepared artificially. Water is held as random $\text{AlO}_3(\text{OH})$ or $\text{SiO}_3(\text{OH})$ groups.

More highly hydrated acid glasses are characterized by a comparatively uniform, tighter oxygen packing. Their content of glass-forming ions shows a linear decrease with water content. Such features are attributed to a fivefold coordination of aluminium by oxygen, and mechanisms of hydration are outlined.

In glasses of essentially quartzo-feldspathic composition the limited amount of oxygen available rules out the possibility of certain internal configurations. This limitation does not apply to basaltic glasses. In the latter the internal structure appears to be pressure-sensitive.

In general there is a tendency for the specific refractivity of water to increase with the degree of hydration of the glass.

The following papers were taken as read:

1. Residual hydroxyl groups in the metakaolin range: by Dr. V. Stubičan (vol. 32, p. 38).

2. A new method for thermal dehydration studies of clay minerals: by Dr. Georges Kulbicki and Prof. Ralph E. Grim (vol. 32, p. 53).

EXCERPT MINUTES OF COUNCIL MEETING

*Held in the Apartments of the Geological Society, Burlington House,
London W., 2 April 1959, at 3.15 p.m.*

Prof. C. E. TILLEY, President, in the Chair.

The following were provisionally elected Ordinary Members of the Society: Peter Evans Brown, Stanley Ernest Ellis, Jules François Jean Marie Moreau, Robert Rice, Colin Van Zyl.

The death of Dr. A. M. Cockburn was reported.

The resignation of Mr. W. H. Sutton was accepted.

The names of Dr. P. J. S. Byrne and Dr. B. N. Rolfe were removed from the list of members for non-payment of subscriptions.

Reports were received from the Treasurer, the Editors, and the Clay Minerals Group. The Treasurer presented the audited accounts for 1958, which were approved (vol. 32, pp. lii-lvii).

The resignation of Dr. G. F. Claringbull as General Secretary was accepted and the proposal as his successor of Dr. J. R. Butler was approved.

Nominations for election to the Council were considered. The following were due to retire: Vice-Presidents, Prof. L. R. Wager and Dr. A. K. Wells; Ordinary Members of the Council, Prof. A. Stuart, Dr. A. F. Seager, Prof. D. Williams, and Dr. W. H. Taylor. In view of the forthcoming transfer of Dr. J. R. Butler to the office of General Secretary and the possible resignation of Dr. McLaughlin, it was agreed to retain Dr. A. F. Seager, Publications Manager, as an Ordinary Member of Council. The following were proposed for election at the Anniversary Meeting in November 1959; Vice-Presidents, Dr. G. F. Claringbull, Dr. A. F. Hallimond; Ordinary Members of Council, Mr. A. E. Jobbins, Dr. I. D. Muir, Dr. W. S. MacKenzie, and Dr. R. M. S. Perrin.

Appreciation was expressed of Sir Arthur Russell's offer to talk on the history of mineral collectors in Cornwall in October 1959.

Prof. C. E. Tilley was appointed the Society's representative on the recently formed British National Committee for Geology.

The proposed new international periodical, *Journal of Petrology*, was reported.

Dr. J. Phemister was nominated the Society's representative on the Commission on Abstracts appointed by the International Mineralogical Association.

The resignation of Miss J. Harris as Publications Assistant was reported.

GENERAL MEETING

*Held in the Apartments of the Geological Society, Burlington House,
London W., 2 April 1959, at 5 p.m.*

Prof. C. E. TILLEY, President, in the Chair.

Forty-seven Members and six Visitors were present.

The elections of five Ordinary Members of the Society provisionally made by the Council were confirmed.

The following exhibit was shown:

Minerals from Ivigtut, South-west Greenland: by Dr. Hans Pauly (communicated by Dr. H. I. Drever).

The following papers were read and discussed:

1. X-ray studies of synthetic diamonds: by Dame Prof. Kathleen Lonsdale, Dr. H. J. Milledge (*née* Grenville-Wells), and Mr. E. Nave (vol. 32, p. 185).

2. The ageing of sesquioxide gels. I. Iron Oxide gels: by Dr. R. C. Mackenzie and Dr. R. Meldau (vol. 32, p. 153).

3. A new method for orthoscopic adjustment with the Fedorov stage: by Dr. A. F. Hallimond (vol. 32, p. 245).

4. The kinetics of the ordering process in synthetic albite: by Dr. J. D. C. McConnell and Mr. Duncan McKie (vol. 32, p. 436).

The following papers were taken as read:

1. Nepheline solid solutions: by Dr. Gabrielle Donnay, Dr. J. F. Schairer, and Prof. J. D. H. Donnay (vol. 32, p. 93).

2. Recent secondary minerals in the Billingham anhydrite mine: by Mr. L. R. Raymond (vol. 32, p. 172).

3. Mineralogy of the Silvermines district, County Tipperary, Eire: by Dr. H. N. Rhoden (communicated by Dr. A. P. Millman; vol. 32, p. 128).

4. X-ray study of psilomelane and cryptomelane: by Dr. B. Mukherjee (vol. 32, p. 166).

EXCERPT MINUTES OF COUNCIL MEETING

*Held in the Apartments of the Geological Society, Burlington House,
London W., 4 June 1959, at 3.15 p.m.*

Prof. C. E. TILLEY, President, in the Chair.

The following were provisionally elected Ordinary Members of the Society: Geoffrey Herbert Collins, Philip Stanley Keeling, Ralph E.

Merrill, Duncan George Murchison, Mitsuoki Nakahira, Hans Johannes Christian Pauly.

The death on 14 April of Dr. Leonard James Spencer, C.B.E., F.R.S., Foreign Secretary, was reported. Dr. Spencer, Ordinary member since 1894, had served as President from 1936 to 1939, as Editor of the *Mineralogical Magazine* from 1900, and of *Mineralogical Abstracts* since their inception in 1920 until 1955.

The resignation of Mr. J. Angove was accepted.

Reports were received from the Treasurer, the Editors, the Clay Minerals Group, and the Publications Committee on Mineralogical Abstracts.

The proposals of the Sub-Committee of the Clay Minerals Group for proceeding with the Electron-optical Monograph were approved, and Dr. R. C. Mackenzie's offer to act as editor of the Bulletin, pending formal appointment on the relinquishment of this office by Dr. R. J. W. McLaughlin, was accepted.

A programme to publicize the *Mineralogical Abstracts* was reported, and discussion with the Mineralogical Society of America on reducing publication costs was recommended.

The resignation from the Council of Dr. R. J. W. McLaughlin was accepted.

The nomination of Dr. W. Campbell Smith, C.B.E., to the office of Foreign Secretary was confirmed.

Dr. G. F. Claringbull, Dr. M. H. Hey, and Dr. J. Phemister were appointed alternate (non-voting) delegates to attend the 1st General Meeting of the International Mineralogical Association in Zurich.

The appointment of Mrs. E. M. Castle as Publications Assistant was reported.

GENERAL MEETING

*Held in the Apartments of the Geological Society, Burlington House,
London W., 4 June 1959, at 5 p.m.*

Prof. C. E. TILLEY, President, in the Chair.

Forty-eight Members and four Visitors were present.

The elections of six Ordinary Members of the Society provisionally made by the Council were confirmed.

The following papers were read and discussed:

1. The growth of synthetic quartz from impure nutrients: by Mr. C. S. Brown and Mr. L. A. Thomas.

Synthetic quartz has been grown by a temperature-gradient hydrothermal process using impure siliceous nutrients native to the United Kingdom. Some of these materials are found to behave in a way similar to a pure quartz nutrient, but others require that the process be modified in order to grow the high-quality crystals required. Using a number of analytical tools, it has been shown that the presence of impurities, particularly aluminium, can affect the growth of quartz. The role of aluminium in various forms and the manner in which it is incorporated in the growing crystals will be discussed.

2. Order and disorder in the feldspars: by Dr. Helen D. Megaw (vol. 32, p. 226).

3. The Amygdale minerals in the Tertiary lavas of Ireland. II. The distribution of Gmelinite: by Dr. G. P. L. Walker (vol. 32, p. 202).

The following paper was taken as read:

1. A note on pyrosmalite from Nant Francon, North Wales: by Dr. P. E. Brown (vol. 32, p. 242).

EXCERPT MINUTES OF COUNCIL MEETING

*Held in the Apartments of the Geological Society, Burlington House,
London, W., 5 November 1959, at 3 p.m.*

Prof. C. E. TILLEY, President, in the Chair.

The following were provisionally elected Ordinary Members of the Society: Donovan William Abbott, Ronald Elrick Anderson, Raymond Albert Binns, Michael Jack Frost, Antony Collen Gifford, Subrata Ghose, John Wallace Hosterman, Michael Rossiter Hughson, Charles Strachan Hutchison, Ernest Henry Nickel, Keiichi Omori, Ki Nam Sang Sang, Takeo Watanabe.

The resignations of Prof. R. Barta, Dr. F. G. H. Blyth, Miss J. J. Glass, Mr. H. M. Rice, and Mr. R. D. S. Shrimpton were accepted.

Reports were received from the Treasurer, the Editors, the Clay Minerals Group, and the Publications Committee on Mineralogical Abstracts.

A reciprocal gift to the Lvov University of the D.T.I. monograph and copies of the C.M. bulletin was agreed.

The inclusion of Prof. J. H. Taylor, Dr. J. R. Butler, and Dr. M. H. Hey in the Sub-Committee of the Clay Minerals Group comprising Dr. R. C. Mackenzie, Mr. G. Brown, Dr. J. A. Gard, and Mr. R. H. S. Robertson was decided.

The joint recommendations of the British and American Publications Committees on organization, economy measures, and future lay-out of the *Mineralogical Abstracts* were approved.

The decision of the International Geological Congress Commission to proceed with an international geological abstracts journal was reported.

It was agreed to discontinue existing exchange arrangements for magazines between the Society and other specified Societies, and the privilege of new members to purchase Mineralogical Magazines back to the commencement of the volume current at the time of their election at the rate of the annual subscription.

The limitation of the library to principal national mineralogical journals was agreed and the disposal of certain transactions not in this category was approved.

Dr. J. R. Butler and Dr. A. P. Millman were appointed auditors of the Society's accounts for the year ending 31 December 1959.

The Council appointed the President as the Society's delegate to the International Geological Congress, in Copenhagen, in August 1960.

In response to an appeal by Sir Arthur Russell, a committee was appointed to collaborate with other interested societies in resisting destruction of Cornish mining dumps.

The Secretary read the draft of the Annual Report of the Council for the past year and this was approved for presentation at the ensuing Anniversary Meeting.

GENERAL (ANNIVERSARY) MEETING

*Held in the Apartments of the Geological Society, Burlington House,
London W., 5 November 1959, at 5 p.m.*

Prof. C. E. TILLEY, President, in the Chair.

Seventy-one Members and eleven Visitors were present.

The elections of thirteen Ordinary Members of the Society provisionally made by the Council were confirmed.

The General Secretary read the following:

ANNUAL REPORT OF THE COUNCIL FOR 1958-9.

Membership. The total membership on 31 October 1959 was 685 against 661 on 31 October 1958. Forty-three new members have been elected during the year, eleven members have resigned, and the names of two members have been removed on account of arrears of subscription. The Society has lost by death six Ordinary members, including the Foreign Secretary and senior member, Dr. L. J. Spencer, who was Editor (1900-55) and President (1936-9). On 31 October 1959 the membership consisted of five Honorary members and 680 Ordinary members, of whom 69 are Life members: 321 members are also members of the Clay Minerals Group.

Meetings. The total attendance at the four general meetings held during the session 1958-9 was 218 members and 33 guests, giving an average of 63 per meeting. At these meetings 16 papers were read, 10 papers were taken as read, and 3 exhibits shown.

At two meetings of the Clay Minerals Group, held in London and Sheffield, respectively, 16 papers were read: the average attendance was 31.

Publications. Two numbers of the *Mineralogical Magazine* have been issued during the year, and the third (September 1959) is expected shortly. The three numbers (244-6) contain the Proceedings (15 pages), 24 papers, 5 short communications, and 10 book reviews in 260 pages, with 10 plates and 74 text-figures. Two numbers of *Mineralogical Abstracts* have been issued and the third (September 1959) should appear in the near future. Nos. 1 and 2 contain 1,165 abstracts and 31 book notices in 162 pages.

Two numbers (20 and 21) and the Index to Vol. 3 of the *Clay Minerals Bulletin* have been issued during the year. The preparation of the new edition of the X-ray monograph is nearing completion, and the possibility of producing two new publications, Electron-optical Monograph, and Clay Mineralogy of British Sediments, is under consideration.

Financial. The accounts for the calendar year 1958 are published in *Mineralogical Magazine* No. 245. The excess of assets (exclusive of the Society's library and stock of publications) over liabilities at 31 December 1958 was £7,156. 15s. 7d. against £7,541. 9s. 11d. at the close of 1957.

During 1958 expenditure from the General Fund exceeded income by £445. 2s. 4d. This deficit was occasioned by the transfer of £500 of the Society's funds to help finance the new and enlarged *Mineralogical Abstracts* sponsored jointly with the Mineralogical Society of America, who have contributed a similar sum. During 1958 preliminary expenses in connexion with *Mineralogical Abstracts* amounted to £219. 4s. 4d.

Two numbers of the *Mineralogical Magazine* and two of *Mineralogical Abstracts* have appeared since the beginning of 1959. Owing to delays occasioned by the printing strike the only costs at present known are for the March numbers, £640. 8s. 9d. (excluding costs for authors' reprints) in the case of the Magazine, and £966. 6s. 0d. for Abstracts. The cost of reprinting 2 numbers of the *Mineralogical Magazine* has amounted to £288. 0s. 0d.

Sales of publications so far during 1959 have amounted to: *Mineralogical Magazine* £1,708. 0s. 10d., *Mineralogical Abstracts* £754. 2s. 11d., and the Clay Minerals Group monograph on differential thermal analysis £419. 4s. 0d.

The balances at the Society's Bankers and in the Post Office Savings Bank on 31 October 1959 were: General Fund £3,697. 10s. 2d., Miers Memorial Fund £170. 13s. 2d.

General. (i) *International Mineralogical Association.* The first General Meeting and Congress of the International Mineralogical Association took place in Zurich from 29 August to 3 September. The President was the Society's voting delegate. The Society was also represented by a member of each of the four Commissions: Abstracts (Dr. J. Phemister), Data (Dr. M. H. Hey), Museums (Dr. G. F. Claringbull), New Minerals (Dr. M. H. Hey), and by the General Secretary as advisory member of the Executive Committee.

(ii) *Committees.* The Society has been represented during the year on the following committees: Geological Conservation Committee, British National Committee for Crystallography, British National Committee for Geology, and the Barker Index Committee.

On the proposal of Dr. R. W. Nurse, seconded by Dr. J. D. C. McConnell, the adoption of the Annual Report was carried unanimously.

A vote of thanks to the Geological Society for the use of the apartments during the past session was proposed by Mr. P. Game, seconded by Mr. H. P. Rooksby, and carried with acclamation.

The President read the following list of Officers and Council elected for the session 1959-60 in accordance with bye-law 20:

President. Prof. C. E. Tilley, B.Sc., Ph.D., F.R.S.

Vice-Presidents. Dr. G. F. Claringbull, B.Sc., Ph.D., A.Inst.P., F.G.S.; Dr. A. F. Hallimond, M.A., Sc.D., F.G.S.

Treasurer. Prof. J. H. Taylor, M.A., B.Sc., Ph.D., F.G.S.

General Secretary. Dr. J. R. Butler, B.A., Ph.D.

Foreign Secretary. Dr. W. Campbell Smith, C.B.E., M.C., T.D., M.A., Sc.D., F.G.S.

Editor of the Mineralogical Magazine. Dr. M. H. Hey, M.A., D.Sc.

Editor of Mineralogical Abstracts. Dr. J. Phemister, M.A., D.Sc., F.R.S.E., F.G.S.

Ordinary Members of Council

Dr. G. M. Brown, M.A., D.Phil., B.Sc., F.G.S. Dr. W. S. MacKenzie, M.A., B.Sc., Ph.D.

Dr. H. I. Drever, B.Sc., Ph.D., F.R.S.E. Dr. I. D. Muir, B.A., Ph.D., F.G.S.

Prof. K. C. Dunham, D.Sc., Ph.D., S.D., M.I.M.M., F.G.S., F.R.S. Dr. R. M. S. Perrin, M.A., B.Sc., Ph.D.

Mr. P. G. Embrey, M.A., B.Sc., A.R.I.C. Dr. A. F. Seager, B.Sc., Ph.D., A.K.C., F.G.S.

Dr. R. A. Howie, M.A., Ph.D., F.G.S. Prof. F. H. Stewart, B.Sc., Ph.D., F.G.S.

Mr. E. A. Jobbins, B.Sc. Dr. R. F. Youell, B.Sc., Ph.D.

A vote of thanks to the retiring Vice-Presidents, General Secretary, and Ordinary Members of the Council was proposed by Prof. K. C. Dunham and seconded by Dr. M. G. Bown.

The following exhibits were shown:

1. Ancient deer horn pick: by the Viscount Falmouth.
2. A new occurrence of tobermorite and xonotlite in the Isle of Skye: by Miss J. M. Sweet.
3. Vaterite ($\mu\text{-CaCO}_3$) from Ballycraigy, Larne, Northern Ireland: by Dr. J. D. C. McConnell.

The following papers were read:

1. Some observations on 'iddingsite': by Dr. P. Gay and Mr. R. W. LeMaitre.

Specimens of 'iddingsite' from many localities have been examined by X-ray, chemical, and optical methods in a study of the alteration of olivine to 'iddingsite'. This proves to be a continuous transformation, and although at any stage it is possible to recognize embryonic structures, the pseudomorph is throughout a disordered atomic arrangement, and at no stage can it be assigned a definite structure or chemical composition or be regarded as a simple submicroscopic mineral intergrowth. The mechanism of the alteration appears to be one of cationic diffusion and replacement, the anion framework suffering little change; the presence of a high proportion of mobile hydrogen ions is probably an important factor. Some speculations are offered regarding the physical and chemical conditions under which alteration takes place.

2. Quantitative mineralogical analysis by X-ray powder diffraction: by Mr. W. A. Mitchell, read by Dr. R. C. Mackenzie (vol. 32, p. 492).

3. Ugite from Skye is thomsonite: by Miss J. M. Sweet (vol. 32, p. 340).

[Continued on p. lxviii.]

MINERALOGICAL

INCOME AND EXPENDITURE ACCOUNT

A. GENERAL

1958		INCOME	£	s.	d.	£	s.	d.
£								
	Members' subscriptions—							
	Annual subscriptions					926	7	7
	Entrance fees					38	0	0
1228								964 7 7
	<i>Mineralogical Magazine</i> —							
	Advertisement fees					95	5	1
	Sales					2291	8	7
2806								2386 13 8
	Investment revenue—							
	Interest on investments					300	13	11
	Post Office Savings Bank interest					38	5	6
256								338 19 5
	Clay Minerals Group—							
	<i>Clay Minerals Bulletin</i> :							
	Subscriptions					224	8	3
	Sales, including authors' reprints					131	18	3
418								356 6 6
1002	Monograph on <i>The Differential Thermal Investigation of Clays</i>							521 13 3
6	<i>Glossary of Clay Trade Names</i> , sales							3 12 6
10	Interest on Bank Accounts (Harpenden and Cambridge)							8 7 2
	Transfer from Publications Fund							300 0 0
445	Balance, being excess of expenditure over income for the year							519 16 7
£6171								£5399 16 8

B. MIERS

									£	s.	d.
18	Investment revenue								17	13	2
1	Donations								9	1	0
<u>£19</u>									<u>£26</u>	<u>14</u>	<u>2</u>

SOCIETY

FOR THE YEAR ENDED 31 DECEMBER 1959

FUND

1958		EXPENDITURE	£	s.	d.	£	s.	d.
£								
	<i>Mineralogical Magazine—</i>							
	Nos. 244-247:							
		Printing	1727	3	11			
		Illustrations	193	15	0			
		Authors' reprints	187	17	4			
		Distribution to members	88	16	2			
		Distribution to subscribers	85	11	3			
2821						2283	3	8
471		Reprinting Magazines Nos. 151, 152, 161, 165.				508	5	0
	Editorial Expenses:							
		Magazine editor	56	3	8			
		Abstracts editor	69	8	0			
236						125	11	
500		Capital contribution to new <i>Mineralogical Abstracts</i>				—	—	—
—		Contribution to <i>Mineralogical Abstracts</i> for Life and Honorary Members				79	0	0
—		Subscriptions to International Mineralogical Association 1958-60				28	16	6
	Meeting expenses—							
		Notices of meetings	96	19	0			
		General expenses in connexion with meetings	26	17	0			
123						123	16	0
	General expenses—							
		Office rental and house expenses	275	13	2			
		Clerical assistance	1195	7	6			
		Printing and stationery	24	3	7			
		Postage and telephone	108	5	11			
		Sundry office expenses	46	1	8			
1617						1649	11	10
3		Library binding charges				63	0	0
	Clay Minerals Group—							
		<i>Clay Minerals Bulletin:</i>						
		Printing Bulletins 20 and 21	325	6	0			
		Editorial expenses	11	0	0			
301						336	6	0
	General expenses:							
		Notices of meetings	44	5	8			
		Expenses in connexion with meetings	25	12	1			
		Office expenses	132	8	3			
99						202	6	0
£6171						£5399	16	8

MEMORIAL FUND

		£	s.	d.
	Bank charges.		1	4
19	Balance, being excess of income over expenditure for the year	26	12	10
£19		£26	14	2

28 March 1960 J. R. BUTLER } Auditors
A. P. MILLMAN }

JAMES H. TAYLOR, Hon. Treasurer

MINERALOGICAL

A. GENERAL

1958 £	LIABILITIES	£ s. d.	£ s. d.	£ s. d.
	Fund Account—			
	Balance per Balance Sheet at 31 December 1958 .	6564 11 8		
	Add Composition Fees received . . .	60 0 0		
	Bequest from Dr. L. J. Spencer . . .	200 0 0		
			6824 11 8	
	Less depreciation on office furniture and equip- ment	93 3 6		
	excess of expenditure over income for year ended 31 December 1959	519 16 7		
			613 0 1	
6565				6211 11 7
1478	Publications Fund			1177 13 9
	Subscriptions, &c., received in advance—			
	Members' subscriptions and entrance fees		120 19 9	
	Subscriptions to <i>Clay Minerals Bulletin</i>		1 10 0	
101				122 9 9
	Sundry creditors—			
	Oxford University Press for Magazine No. 243 (estimated) .		665 0 0	
	A. Walker & Son, Ltd., for Bulletin No. 21		212 16 0	
	Colonna Press for reprinting Magazine No. 151		110 0 0	
	Royal Entomological Society for house expenses		27 11 2	
	Editors for sundry editorial expenses		35 15 10	
972				1051 3 0
£9116				£8562 18 1

B. MIERS

	£	s.	d.	£	s.	d.
Fund Account—						
Balance per Balance Sheet at 31 December 1958	592	3	11			
Add excess of income over expenditure for the year ended						
31 December 1959	26	12	10			
					618	16 9
					£618	16 9

SOCIETY

31 DECEMBER 1959

FUND

1958	ASSETS	£	s.	d.	£	s.	d.
	Office furniture and equipment—						
	Original cost	931	14	6			
	Less depreciation	397	17	8			
627					533	16	10
	Investments (at cost or as valued at 31 December 1951)—						
	£2232. 9s. 3½ % War Stock 1952	1856	8	6			
	£753. 12s. 11d. 4 % Consolidated Stock 1957	694	4	9			
	£606. 4s. 6d. 4 % Funding Stock 1960-90.	598	5	0			
	£250. 3 % Savings Bonds 1960-70	216	17	6			
	£1013. 9s. 6d. 3 % Savings Bonds 1965-7	916	7	0			
	£173. 6s. 6d. 3 % British Transport Stock 1978-88	127	1	3			
	£275. 2½ % Consolidated Stock	169	2	6			
	£261. 12s. 6d. 3½ % Treasury Stock 1977-80	244	8	3			
	£1058. 9s. 11d. 4½ % British Electricity Stock 1967-69	1005	17	3			
5778					5828	12	0
	Note:—The total market value of the above investments at 31 December 1959 was £5065 7s. 10d.						
	Deposits—						
1757	Balance with Post Office Savings Bank				794	19	10
	Subscriptions, &c., in arrears—						
	Members' subscriptions	64	15	1			
	Subscriptions to <i>Clay Minerals Bulletin</i>	24	0	0			
78					88	15	1
	Sundry debtors—						
126	Purchasers of <i>Clay Minerals Bulletin</i> and authors' reprints				65	13	0
	Cash—						
	Coutts & Co., London	439	18	7			
	Barclays Bank, Harpenden	690	0	11			
	Cambridge & District Trustee Savings Bank	90	10	0			
	Cash in hand, London	25	0	0			
	„ Harpenden	5	11	10			
750					1251	1	4
£9116					£8562	18	1

Note:—The value of the Society's library and stock of publications is not included in the above assets.

MEMORIAL FUND

		£	s.	d.
	Investments (at cost)—			
439	£504. 17s. 4d. 3½ % War Stock 1952	439	7	0
	Note:—The total market value of the above investment at 31 December 1959 was £330. 13s. 9d.			
153	Cash—Coutts & Co., London	179	9	9
£592		£618	16	9

28 March 1960 J. R. BUTLER } Auditors
A. P. MILLMAN }

JAMES H. TAYLOR, Hon. Treasurer

MINERALOGICAL SOCIETIES OF

MINERALOGICAL

INCOME AND EXPENDITURE ACCOUNT

INCOME						£	s.	d.	£	s.	d.
Subscriptions—											
Mineralogical Society of America	.	.	.	.	.	267	12	4			
Mineralogical Society of Great Britain	.	.	.	.	.	683	0	8			
									950	13	0
Sales	.	.	.	.	.				1323	4	11

Balance, being excess of expenditure over income	.	.	.	.	.	.	.	.	568	10	9
									<u>£2842</u>	<u>8</u>	<u>8</u>

BALANCE SHEET AS AT

LIABILITIES						£	s.	d.	£	s.	d.	£	s.	d.
Fund Account—														
Balance per Balance Sheet at 31 December 1958	.	.	.	.	.				780	15	8			
Less depreciation on office furniture and equipment	.	.	.	.	.	11	14	3						
excess of expenditure over income for year ended 31														
December 1959	.	.	.	.	.	568	10	9						
									580	5	0			
												200	10	8
Subscriptions received in advance	.	.	.	.	.							68	0	0
Sundry creditors—														
Royal Entomological Society for house expenses	.	.	.	.	.							13	15	6
												<u>£282</u>	<u>6</u>	<u>2</u>

AMERICA AND GREAT BRITAIN

ABSTRACTS

FOR THE YEAR ENDED 31 DECEMBER 1959

EXPENDITURE								£	s.	d.	£	s.	d.
<i>Mineralogical Abstracts</i>													
Vol. 14, Nos. 1 and 2:													
Printing								1504	2	6			
Distribution (including envelopes)								185	6	1			
											1689	8	7
Editorial expenses—													
Editor's honorarium								400	0	0			
Editorial Assistant's stipend								503	14	4			
General editorial expenses								47	10	0			
											951	4	4
Office expenses—													
Office rental and house expenses								137	16	7			
Printing and stationery								39	3	10			
Postage								18	10	4			
Sundry office expenses								6	5	0			
											201	15	9
											£2842	8	8

4. The Lewisian pegmatites of South Harris, Outer Hebrides: by Dr. O. von Knorring and Dr. R. Dearnley (vol. 32, p. 366).

The following papers were taken as read:

1. An X-ray study of manganese minerals: by Dr. B. Mukherjee (vol. 32, p. 332).

2. A dickite with an elongated crystal habit and its dehydroxylation: by Mr. E. R. Schmidt and Mr. R. O. Heckroodt (vol. 32, p. 314).

3. Pseudomorphs after olivine in Markle basalt: by Dr. W. W. Smith (vol. 32, p. 324).

4. A note on a nordmarkite and an associated rare-earth mineral from the Ben Loyal syenite complex, Sutherlandshire: by Dr. O. von Knorring and Dr. R. Dearnley (vol. 32, p. 389).

PROCEEDINGS
OF THE
MINERALOGICAL SOCIETY
(1960)

EXCERPT MINUTES OF COUNCIL MEETING

*Held in the Apartments of the Geological Society, Burlington House,
London W., 28 January 1960, at 3.15 p.m.*

Prof. C. E. TILLEY, President, in the Chair.

The following were provisionally elected Ordinary Members of the Society: Donald Ralph Bowes, Richard Stanley William Braithwaite, Ivor Llewellyn Elliott, Jack Edney Gillott, Francis Edward Tocher.

The resignations of Mr. D. W. Bishopp, Mr. K. C. Branscombe, Prof. E. G. Cox, Mr. G. A. Garceau, Dr. A. L. Johnson, Prof. C. E. Marshall (Australia) were accepted.

Reports were received from the Treasurer, the Editors, the Clay Minerals Group, and the Publications Committee on Mineralogical Abstracts.

The bequest by Dr. L. J. Spencer of £200 to the Society was reported. It was agreed that this sum should be invested and the dividends credited to the Miers Memorial Fund, which should be renamed the Miers-Spencer Memorial Fund in perpetuation of the name of Dr. Spencer.

The resignation of Dr. Lysaght as Editorial Assistant and the appointment to this post of Dr. O. Bradley were reported.

The co-option of Dr. G. F. Claringbull to the Publications Committee was confirmed.

Dr. Hey was empowered to negotiate on behalf of the Society at the International Mineralogical Association meeting in Paris in February; and, pending his return, consideration of the question of *Mineralogical Abstracts* in relation to the proposed *International Geological Abstracting Journal* was postponed.

The decision to publish the circular of the Clay Minerals Group to a definite four-yearly schedule, to include the officers' reports at the preceding Annual General Meeting, was noted.

Dr. Campbell Smith reported that, at a recent meeting of the Geological Conservation Council, the preservation of the Mine Dumps in Cornwall had been considered, and their afforestation was not deemed imminent.

GENERAL MEETING

*Held in the Apartments of the Geological Society, Burlington House,
London W., 28 January 1960, at 5 p.m.*

Prof. C. E. TILLEY, President, in the Chair.

Sixty-five Members and seven Visitors were present.

The elections of five Ordinary Members of the Society provisionally made by the Council were confirmed.

The following exhibits were shown:

1. Rosasite from Rutland Cavern, Matlock Bath, Derbyshire: by Mr. G. Ryback and Dr. M. S. W. Braithwaite.

2. Thaumasite from Embleton quarry, near Cockermouth, Cumberland: by the Dept. of Mineralogy, British Museum.

The following papers were read and discussed:

1. A thermal and X-ray investigation of scarbroite: by Dr. W. J. Duffin and Dr. J. Goodyear (vol. 32, p. 353).

2. Electron-optical data for crystals of scarbroite: by Dr. G. W. Brindley and Mr. J. J. Comer (vol. 32, p. 363).

3. The system CaO-MgO-FeO-SiO_2 and its bearing on the origin of basic and ultrabasic rocks: by Dr. Peter J. Wyllie (vol. 32, p. 459).

4. Carminite and beudantite from the northern part of the Lake District and from Cornwall: by Mr. A. W. G. Kingsbury and Mr. J. Hartley (vol. 32, p. 423).

5. Chemical variations in members of the fergusonite-formanite series: by Dr. J. R. Butler and Miss Rosemary Hall (vol. 32, p. 392).

The following papers were taken as read:

1. An X-ray study of exsolution phenomena in the Skaergaard pyroxenes: by Dr. M. G. Bown and Dr. P. Gay (vol. 32, p. 379).

2. Two synthetic compounds containing chromium in different valency states: by Mr. W. Johnson (vol. 32, p. 408).

3. Thaumasite from Co. Down, Northern Ireland: by Dr. Diane C. Knill with X-ray data by Mr. B. R. Young (vol. 32, p. 416).

4. A minor occurrence of sepiolite from Puyvalador, near Quérigut, France: by Dr. W. A. Watters (vol. 32, p. 412).

EXCERPT MINUTES OF COUNCIL MEETING

*Held in the Apartments of the Geological Society, Burlington House,
London W., 31 March 1960, at 3.15 p.m.*

Prof. C. E. TILLEY, President, in the Chair.

The following were provisionally elected Ordinary Members of the Society: Khabib M. Abdullaev, Gloria Diana Borley, William Liddle Brown, Bruce William Chappell, Nigel Cotton, Christopher Michael Gregory, Renier Oelof Heckroodt, John Prior Hunt, Alan Lindsay Mackay, Joseph Anthony Mandarino, Dennis Mitchell, Gian Luca Morelli, Stefano Neglia, Michael Jerrold Oppenheim, Rupert William Roye Rutland, Raymond Richard Skelhorn, Henry Edward Wenden, Don Oswald Zimmerman, Peter Zinovieff.

The deaths of Prof. C. Andreatta and Dr. W. F. P. McLintock were reported.

The resignations of Mr. J. H. Spotts and Mr. E. T. Kelsey were accepted.

The name of Mr. T. J. Wiggins was removed from the list of members for non-payment of subscriptions.

Reports were received from the Treasurer, the Editors, the Clay Minerals Group, and the Publications Committee on Mineralogical Abstracts. The Treasurer presented the audited accounts for 1959, which were approved (vol. 32, pp. lxxviii-lxxiii).

A grant by the Nuffield Foundation of up to £220 to promote the Society's Journal and Abstracts was reported.

Dr. Phemister expressed his appreciation of the continual help with abstracting he had received from Dr. R. A. Howie.

Dr. Hey reported the recommendations of the Commission on Abstracts at the International Mineralogical Association meeting in Paris in February. It was decided to submit a detailed report to the International Mineralogical Association meeting in Copenhagen in August.

The resignation of Prof. J. H. Taylor as Treasurer of the Society as from November 1960 was accepted, and the proposal as his successor of Dr. A. F. Seager was approved.

Nominations for election to the Council were considered. The following were due to retire: President, Prof. C. E. Tilley; Ordinary Members of the Council, Dr. A. F. Seager, Dr. H. I. Drever, Mr. P. G. Embrey, and Dr. G. M. Brown. The request by Prof. Tilley for further time to consider his recommendation of a successor was approved. The following

were proposed for election at the Anniversary Meeting in November 1960: Ordinary Members of the Council, Prof. J. H. Taylor, Mr. H. P. Rooksby, Prof. F. Walker, and Mr. A. W. G. Kingsbury.

The invitation by the Royal Society for the presentation of a congratulatory message on the occasion of its tercentenary was reported.

A report by Dr. Henry on the progress of the index to Mineralogical Abstracts (vol. 13) and his explanation for the delay in its completion were received.

GENERAL MEETING

*Held in the Apartments of the Geological Society, Burlington House,
London W., 31 March 1960, at 5 p.m.*

Prof. C. E. TILLEY, President, in the Chair.

Forty-nine Members and three Visitors were present.

The elections of nineteen Ordinary Members of the Society provisionally made by the Council were confirmed.

The following exhibit was shown:

Scheelite and pseudomorphs of quartz from Ramsley Mine, South Tawton, near Okehampton: by Mr. A. W. G. Kingsbury.

The following papers were read and discussed:

1. 190 years mining and metallurgy in Berlin: by Prof. H. Strunz.
2. A galena-wulfenite-uraniferous-asphalt horizon in the Magnesian Limestone of Nottinghamshire: by Mr. T. Deans (vol. 32, p. 705).
3. The biaxial ray surface: by Dr. F. E. Tocher (vol. 32, p. 558).
4. Silicate melts with indications of ino structures: by Dr. E. Christiaan de Wys (vol. 32, p. 640).
5. A possible explanation of immiscibility in silicate melts: by Dr. E. Christiaan de Wys (vol. 32, p. 471).

The following papers were taken as read:

1. Secondary minerals of the Tertiary basalts, Barrington, New South Wales: by Dr. B. Nashar and Mr. M. Davies (vol. 32, p. 480).
 2. What is plinthite?: by Miss J. M. Sweet (vol. 32, p. 455).
 3. X-ray data on stokesite: by Dr. P. Gay and Mr. K. O. Rickson (vol. 32, p. 433).
 4. β -Ferric oxyhydroxide: by Dr. A. L. Mackay (vol. 32, p. 545).
-

EXCERPT MINUTES OF COUNCIL MEETING

*Held in the Apartments of the Geological Society, Burlington House,
London W., 2 June 1960, at 3 p.m.*

Prof. C. E. TILLEY, President, in the Chair.

The following were provisionally elected Ordinary Members of the Society: Graham Evans, Viktor Albertovich Frank-Kamenetzky, Hendrik Heystek, James Victor Percival Long, Leslie L. McDowell, Herman Ellis Roberson, Lewis F. Scheffler, *Jr.*, John Sinclair Stevenson, Michael Vadime Tomkeieff, David Colin Umpleby.

The death of Dr. S. P. Mitra was reported.

The names of Mr. R. D. Mackay and Dr. T. S. Onay were removed from the list of members for non-payment of subscriptions.

Reports were received from the Treasurer, the Editors, the Clay Minerals Group, and the Publications Committee on Mineralogical Abstracts. A draft plan for an International Mineralogical Abstracts was considered.

Dr. R. A. Howie was delegated to represent Dr. J. Phemister on the Commission on Abstracts of the International Mineralogical Association at its meeting in Copenhagen.

The indication, in future issues of the List of Members, of Clay Minerals Group membership against the names of members was agreed.

A leaflet advertising *Mineralogical Abstracts* for insertion in the next number of the *Journal of Petrology* was approved.

The text of the congratulatory message for presentation to the Royal Society on the occasion of its tercentenary was approved.

The proposal to elect Prof. L. R. Wager as President at the next Anniversary meeting in November, on the retirement of Prof. C. E. Tilley, was approved.

GENERAL MEETING

*Held in the Apartments of the Geological Society, Burlington House,
London W., 2 June 1960, at 5 p.m.*

Prof. C. E. TILLEY, President, in the Chair.

Forty-nine Members and two Visitors were present.

The elections of ten Ordinary Members of the Society provisionally made by the Council were confirmed.

The following exhibit was shown:

Some observations of the electron-induced luminescence in rock-forming minerals: by Dr. J. V. P. Long.

The following papers were read and discussed:

1. Some ideas on beryl: by Dr. W. T. Schaller.
2. The Tomhannock Creek, New York, Chondrite: by Dr. B. Mason and Dr. H. B. Wiik (vol. 32, p. 528).
3. The feldspar phenocrysts of some Tertiary acid glasses: by Mr. I. S. E. Carmichael (vol. 32, p. 587).

The following papers were taken as read:

1. A thermal study of thaumasite: by Dr. M. Font-Altaba (vol. 32, p. 567).
2. Magnetic susceptibility of garnet: by Dr. M. J. Frost (vol. 32, p. 573).
3. The amygdale minerals in the Tertiary lavas of Ireland. III. Regional distribution: by Dr. G. P. L. Walker (vol. 32, p. 503).
4. The amygdale minerals in the Tertiary lavas of Ireland. IV. The crystal habit of calcite: by Dr. G. P. L. Walker (vol. 32, p. 609).
5. A thermodynamic analysis of the system anorthite-åkermanite: by Dr. E. C. de Wys (vol. 32, p. 644).

EXCERPT MINUTES OF COUNCIL MEETING

*Held in the Apartments of the Geological Society, Burlington House,
London W., 3 November 1960, at 3 p.m.*

Prof. C. E. TILLEY, President, in the Chair.

The following were provisionally elected Ordinary Members of the Society: William Eric Addison, Peter Bowden, Joas Ernesto de Souza Campos, Jose Moacry Vianna Coutinho, Jose Walter Faria, Richard Herbert Train Garnett, Juan C. Goni, John David Gavin Hamilton, Archie Chalmers Hills, David Michael Hirst, Derek John Ottley, Edward Albert Retief, Rilson Rodrigues da Silva, Wladyslaw Jan Skiba, George Switzer.

The deaths of Dr. G. H. Francis and Dr. R. K. Schofield were reported.

The resignations of Mr. J. E. Hughes, Mr. E. H. Jaques, Mr. J. W. Pallister, Dr. J. M. Rowe, and Mr. R. G. Thomas were accepted.

Reports were received from the Treasurer, the Editors, the Clay Minerals Group, and the Publications Committee on Mineralogical Abstracts. The text of the note on the proposed statement by the Councils of the British and American Societies to be sent, through the

Commission on Abstracts, to all national societies was approved, subject to slight amendment.

The report by the President, as the Society's voting delegate, of the Second General Meeting and Congress of the International Mineralogical Association held in Copenhagen during August 18th to 25th was noted.

The Secretary read the draft of the Annual Report of the Council for the past year and this was approved for presentation to the ensuing Anniversary Meeting.

Dr. A. P. Millman and Mr. H. P. Rooksby were appointed auditors of the Society's accounts for the year ending 31 December 1960.

Dr. P. Gay was nominated, to succeed Dr. G. F. Claringbull, as the Society's representative on the National Committee for Crystallography, to serve for a period of six years.

A donation of £5. 5s. towards the Hans Sloane Memorial Fund was approved.

It was agreed that the titles of papers published in future issues of the Magazine should be supplied to 'Chemical Abstracts' for inclusion in their new service, known as 'Chemical Titles'.

GENERAL MEETING

*Held in the Apartments of the Geological Society, Burlington House,
London W., 3 November 1960, at 3 p.m.*

Prof. C. E. TILLEY, President, in the Chair.

Seventy-seven Members and twelve Visitors were present.

The elections of fifteen Ordinary Members of the Society provisionally made by the Council were confirmed.

The General Secretary read the following:

ANNUAL REPORT OF THE COUNCIL FOR 1959-60

Membership. The total membership on 31 October 1960 was 712 against 685 on 31 October 1959. Forty-seven new members have been elected during the year, fourteen members have resigned and the names of three members have been removed on account of arrears of subscription. The Society has lost by death three Ordinary members. On 31 October 1960 the membership consisted of five Honorary members and 707 Ordinary members, of whom 70 are Life members: 333 members are also members of the Clay Minerals Group.

Meetings. The total attendance at the four general meetings held during the session 1959-60 was 234 members and 23 guests, giving an average of 64 per meeting. At these meetings 17 papers were read, 17 papers were taken as read, and 7 exhibits shown.

[continued on p. lxxviii]

INCOME AND EXPENDITURE ACCOUNT

A. GENERAL

1959	£	INCOME	£	s.	d.	£	s.
		Members' subscriptions—					
		Annual subscriptions	959	6	8		
		Entrance fees	44	0	0		
964						1003	6
		<i>Mineralogical Magazine</i> —					
		Advertisement fees	438	8	2		
		Sales	3926	12	10		
2387						4365	1
		Investment revenue—					
		Interest on investments	240	2	2		
		Post Office Savings Bank Interest	19	17	0		
339						259	19
		Clay Minerals Group—					
		<i>Clay Minerals Bulletin</i> :					
		Subscriptions	245	10	2		
		Sales, including authors' reprints	412	4	5		
356						657	14
		Clay Minerals Monographs:					
		Sales: <i>X-ray Identification and Crystal Structure of Clay Minerals</i>	4	4	6		
		<i>The Differential Thermal Investigation of Clays</i>	563	17	5		
522						568	1
4		<i>Glossary of Clay Trade Names</i> , sales					16
—		Advertisement				3	0
8		Interest on Bank Accounts (Harpenden and Cambridge)				12	7
300		Transfer from Publications Fund				—	—
520		Balance, being excess of expenditure over income for the year				—	—
£5400						£6870	7

B. MIERS-SPENCE

		£	s.
18	Investment revenue	20	10
9	Donations	—	—
£27		£20	10

SOCIETY

FOR THE YEAR ENDED 31 DECEMBER 1960

FUND

1959 £	EXPENDITURE	£	s.	d.	£	s.	d.
	<i>Mineralogical Magazine—</i>						
	Nos. 248–251:						
	Printing	1427	13	8			
	Illustrations	130	6	9			
	Authors' reprints	172	4	4			
	Distribution to members	82	0	3			
	Distribution to subscribers	83	7	7			
19283						1895	12 7
508	Reprinting Magazine Nos. 111, 116, 117, 119, 122, 137, 144, 149, 150, 153, 155, 172, 173, 182, 205					2019	18 0
	Editorial Expenses:						
	Magazine editor	73	16	8			
	Abstracts editor	25	5	2			
126						99	1 10
79	Contribution to Mineralogical Abstracts for Life and Honorary Members					78	0 0
29	Subscriptions to International Mineralogical Association 1960–61					32	2 9
	Meeting expenses—						
	Notices of meetings	109	15	9			
	General expenses in connexion with meetings	33	14	6			
124						143	10 3
	General expenses—						
	Office rental and house expenses	281	8	1			
	Clerical assistance	1342	6	8			
	Printing and stationery	57	0	2			
	Postage and telephone	140	2	0			
	Sundry office expenses	85	11	3			
1650						1906	8 2
63	Library binding charges					3	3 3
	Clay Minerals Group—						
	<i>Clay Minerals Bulletin:</i>						
	Printing Bulletins 22 and 23	250	7	0			
	Authors' reprints	147	5	0			
	Editorial expenses	10	0	0			
336						407	12 0
	General expenses:						
	Notices of meetings	41	9	3			
	Expenses in connexion with meetings	19	16	6			
	Office expenses	171	10	8			
202						232	16 5
	Balance, being excess of income over expenditure for the year					52	2 7
400						<u>£6870</u>	<u>7 10</u>

MEMORIAL FUND

		£	s.	d.
	Bank charges			4 7
27	Balance, being excess of income over expenditure for the year			20 6 1
£27				<u>£20 10 8</u>

March 1961 A. P. MILLMAN } Auditors
H. P. ROOKSBY }

A. F. SEAGER, Hon. Treasurer

MINERALOGICAL

BALANCE SHEET AS AT

A. GENERAL

1959 £	LIABILITIES	£	s.	d.	£	s.	d.	£	s.	d.
	Fund Account—									
	Balance per Balance Sheet at 31 December 1959 .	6211	11	7						
	Add Excess of income over expenditure for year ended 31 December 1960	52	2	7						
					6263	14	2			
	Less Depreciation on office furniture and equipment	102	3	2						
	Transfer to Miers-Spencer Memorial Fund	200	0	0						
					302	3	2			
6212								5961	11	
1178	Publications Fund							1177	13	
	Subscriptions, &c., received in advance—									
	Members' subscriptions and entrance fees				110	1	2			
	Subscriptions to <i>Clay Minerals Bulletin</i>					15	0			
122								110	16	
	Loan from Royal Society (Parliamentary Grant-in-aid for scientific publications)							750	0	
	Sundry creditors—									
	Oxford University Press for Magazine No. 243 (estimated)				665	0	0			
	Oxford University Press for Magazine No. 251				478	10	9			
	Colonna Press for reprinting Magazines Nos. 111 and 116				269	4	0			
	Royal Entomological Society for house expenses				26	10	3			
	Editor for sundry editorial expenses				70	11	9			
1051								1509	16	

£8563

£9509 17 8

B. MIERS-SPENCER

		£	s.	d.	£	s.	d.
	Fund Account—						
	Balance per Balance Sheet at 31 December 1959	618	16	9			
	Add Excess of income over expenditure for the year ended 31 December 1960	220	6	1			
619					839	2	10

£619

£839 2 10

SOCIETY

1 DECEMBER 1960

UND

	ASSETS	£ s. d.		£ s. d.	
		£	s. d.	£	s. d.
959	Office furniture and equipment—				
£	Original cost	1023	7 6		
	Less depreciation	500	0 10		
534				523	6 8
	Investments (at cost or as valued at 31 December 1951)—				
	£2232. 9s. 3½% War Stock 1952	1856	8 6		
	£753. 12s. 11d. 4% Consolidated Stock 1957	694	4 9		
	£606. 4s. 6d. 4% Funding Stock 1960-90	598	5 0		
	£250. 3% Savings Bonds 1960-70	216	17 6		
	£1013. 9s. 6d. 3% Savings Bonds 1965-75	916	7 0		
	£173. 6s. 6d. 3% British Transport Stock 1978-88	127	1 3		
	£275. 2½% Consolidated Stock	169	2 6		
	£261. 12s. 6d. 3½% Treasury Stock 1977-80	244	8 3		
	£1120. 16s. 7d. 4½% British Electricity Stock 1967-69	1065	17 3		
828				5888	12 0
	Note:—The total market value of the above investments at 31 December 1960 was £4709. 1s. 2d.				
	Deposits—				
795	Balance with Post Office Savings Bank			814	16 10
	Subscriptions, &c., in arrears—				
	Members' subscriptions and entrance fees	57	7 2		
	Subscriptions to <i>Clay Minerals Bulletin</i>	13	0 0		
89				70	7 2
	Sundry debtors—				
66	Purchasers of <i>Clay Minerals Bulletin</i> and authors' reprints	128	12 0		
	Mineralogical Abstracts, for loan from Mineralogical Society of Great Britain	1350	0 0	1478	12 0
	Cash—				
	Coutts & Co., London	161	9 7		
	Barclays Bank, Harpenden	531	1 8		
	Cambridge & District Trustee Savings Bank	18	19 11		
	Cash in hand, London	20	0 0		
	„ „ Harpenden	2	11 10		
251				734	3 0
663	Note:—The value of the Society's library and stock of publications is not included in the above assets.			£9509	17 8

EMORIAL FUND

		£ s. d.		£ s. d.	
		£	s. d.	£	s. d.
	Investments (at cost)—				
439	£504. 17s. 4d. 3½% War Stock 1952	439	7 0		
	£208. 11s. 4½% British Electricity Stock 1967-69	200	0 0		
				639	7 0
	Note:—The total market value of the above investments at 31 December 1960 was £490. 3s. 6d.				
80	Cash—Coutts & Co., London			199	15 10
19				£839	2 10

March 1961 A. P. MILLMAN } Auditors
H. P. ROOKSBY }

A. F. SEAGER, Hon. Treasurer

MINERALOGICAL SOCIETIES OF

MINERALOGICAL

INCOME AND EXPENDITURE ACCOUNT

1959		INCOME	£	s.	d.	£	s.	d.
£								
	Subscriptions—							
	Mineralogical Society of America		291	9	11			
	Mineralogical Society of Great Britain		698	0	0			
951							989	9 11
1323	Sales						1909	10 11

568	Balance, being excess of expenditure over income					1487	1	10
<u>£2842</u>						<u>£4386</u>	<u>2</u>	<u>8</u>

BALANCE SHEET AS AT

£		LIABILITIES	£	s.	d.	£	s.	d.	£	s.	d.
	Fund Account—										
	Balance per Balance Sheet at 31 December 1959	200	10	8							
	Add loan from Mineralogical Society of Great Britain	1350	0	0							
						1550	10	8			
	Less Depreciation on office furniture and equipment		11	14	3						
	Excess of expenditure over income for year ended 31 December 1960	1487	1	10							
200						1498	16	1			
68	Subscriptions received in advance								51	14	
	Sundry creditors—								67	0	
14	Royal Entomological Society for house expenses								17	13	
<u>£282</u>									<u>£136</u>	<u>8</u>	

AMERICA AND GREAT BRITAIN

ABSTRACTS

FOR THE YEAR ENDED 31 DECEMBER 1960

£	EXPENDITURE	£	s.	d.	£	s.	d.
959	<i>Mineralogical Abstracts—</i>						
	Vol. 14, Nos. 3 to 7 inclusive						
	Printing (including advertising)	2947	16	0			
	Distribution	235	2	8			
589					3182	18	8
	Editorial expenses—						
	Editor's Honorarium	400	0	0			
	Editorial Assistant's stipend	526	9	10			
	General editorial expenses	43	4	9			
951					969	14	7
	Office expenses—						
	Office rental and house expenses	145	2	6			
	Printing and stationery	44	5	7			
	Postage	41	3	5			
	Sundry office expenses	2	17	11			
202					233	9	5
842					£4386	2	8

DECEMBER 1960

£	ASSETS	£	s.	d.	£	s.	d.
	Office furniture and equipment—						
	Original cost	117	2	7			
	Less depreciation	23	8	6			
105					93	14	1
35	Subscriptions in arrears				29	0	0
142	Cash—Coutts & Co., London				13	14	0

282 £136 8 1

March 1961 A. P. MILLMAN } Auditors
H. P. ROOKSBY }

A. F. SEAGER, Hon. Treasurer

At two meetings of the Clay Minerals Group, held in London and Aberdeen, respectively, 15 papers were read: the average attendance was 31.

Publications. Three numbers of the *Mineralogical Magazine* have been issued during 1960, and the fourth (December 1960) is expected shortly. The four numbers (248–51) contain the Proceedings (16 pages), 32 papers, 8 short communications, and 11 book reviews in 318 pages with 1 plate and 117 text-figures. Two numbers of *Mineralogical Abstracts* have been issued and the third (September 1960) should appear on 2 November 1960. The fourth number (December 1960) will be the index number. The three numbers (5–7) contain 1,697 abstracts and 49 book notices in 214 pages.

Two numbers (22 and 23) of the *Clay Minerals Bulletin* have been issued during the year. The X-ray monograph is going to print on 1 December 1960 and should be available for circulation in nine to twelve months' time. Work is proceeding on the Electron Optical monograph and the Clay Mineralogy of British Sediments.

Financial. The accounts for the calendar year 1959 are published in *Mineralogical Magazine* No. 249. During the year expenditure from the General Fund exceeded income by £519. 16s. 7d. The excess of assets (exclusive of the Society's library and stock of publications) over liabilities at 31 December 1959 was £6,830. 8s. 4d. against £7,156. 15s. 7d. at the close of 1958.

The first two numbers of the Magazine for 1960 cost £833. 17s. 1d. (excluding costs for authors' reprints). Since the last Annual Report was presented four numbers of *Mineralogical Abstracts* have been published at a cost of £2,504. 10s. 10d. The expenses of reprinting 11 numbers of the *Mineralogical Magazine* have amounted to £1,460. 10s.

Sales of publications so far during 1960 are as follows: *Mineralogical Magazine* £3,359. 13s. 9d., *Mineralogical Abstracts* £1,644. 18s. 6d., Monographs £438. 15s. 10d.

The balances at the Society's Bankers and in the Post Office Savings Bank on 31 October 1960 were: General Fund £1,762. 15s. 1d., Miers Memorial Fund £191. 1s. 3d.

General. (i) *International Mineralogical Association.* The Second General Meeting and Congress of the International Mineralogical Association took place in Copenhagen from 18 to 25 August. The President was the Society's voting delegate. The Society was also represented at three Commissions: Abstracts (Dr. R. A. Howie), Data (Dr. M. H. Hey), New Minerals (Dr. M. H. Hey).

(ii) *Committees.* The Society has been represented during the year on the following committees. Geological Conservation Committee, British National Committee for Crystallography, and the British National Committee for Geology.

On the proposal of Prof. W. A. Deer, seconded by Dr. M. K. Wells, the adoption of the Annual Report was carried unanimously.

A vote of thanks to the Geological Society for the use of the apartments during the past session was proposed by Prof. J. H. Taylor, seconded by Dr. I. D. Muir, and carried with acclamation.

The President read the following list of Officers and Council elected for the session 1960–61 in accordance with bye-law 20:

President. Prof. L. R. Wager, M.A., Sc.D., B.Sc., F.R.S.

Vice-Presidents. Dr. G. F. Claringbull, B.Sc., Ph.D., A.Inst.P., F.G.S.; Dr. A. F. Hallimond, M.A., Sc.D., F.G.S.

Treasurer. Dr. A. F. Seager, B.Sc., Ph.D., A.K.C., F.G.S.

General Secretary. Dr. J. R. Butler, M.A., Ph.D.

Foreign Secretary. Dr. W. Campbell Smith, C.B.E., M.C., T.D., M.A., Sc.D., F.G.S.

Editor of the Mineralogical Magazine. Dr. M. H. Hey, M.A., D.Sc.

Editor of Mineralogical Abstracts. Dr. J. Phemister, M.A., D.Sc., F.R.S.E., F.G.S.

Ordinary Members of the Council

Prof. K. C. Dunham, D.Sc., Ph.D.,

S.D., M.I.M.M., F.G.S., F.R.S.

Dr. R. A. Howie, M.A., Ph.D., F.G.S.

Mr. E. A. Jobbins, B.Sc.

Mr. A. W. G. Kingsbury, F.G.S.

Dr. W. S. MacKenzie, M.A., B.Sc.,

Ph.D., F.R.S.E., F.G.S.

Dr. I. D. Muir, B.A., Ph.D., F.G.S.

Dr. R. M. S. Perrin, M.A., B.Sc., Ph.D.

Mr. H. P. Rooksby, B.Sc., F.Inst.P.

Prof. F. H. Stewart, B.Sc., Ph.D.,

F.G.S.

Prof. J. H. Taylor, M.A., B.Sc., Ph.D.,

F.G.S., F.R.S.

Prof. F. Walker, M.A., Ph.D., D.Sc.,

F.R.S.E., F.G.S.

Dr. R. F. Youell, B.Sc., Ph.D.,

A.R.C.S.

The retiring President, Prof. C. E. Tilley, in welcoming Prof. L. R. Wager to the Chair, thanked the Officers of the Society for their help during his period of office, and expressed the hope that Prof. Wager's Presidency would be a happy one.

Prof. Wager, in reply, thanked the Society for his election and expressed appreciation of Prof. Tilley's guidance of the Society during the past three years. He then proposed a vote of thanks to the retiring President, Treasurer, and Ordinary Members of the Council, which was carried with acclamation.

Sir Arthur Russell reported that arrangements had been made with the Directors of the Geevor Mine to repair the Crown Engine House, Cornwall.

The following exhibit was shown:

Gold from the Caldbeck Fells: by Miss J. M. Sweet and Mr. A. W. G. Kingsbury.

The following papers were read and discussed:

1. The unique meteorite crater at Dalgara, Western Australia: by Dr. H. H. Nininger and Mr. G. I. Huss (read by Dr. M. H. Hey) (vol. 32, p. 619).

2. Experimental studies illustrating the effect of volatiles on metamorphism in closed and open systems: by Dr. P. J. Wyllie.

Experimental data in the systems $\text{MgO}-\text{CO}_2-\text{A}$ and $\text{MgO}-\text{CO}_2-\text{H}_2\text{O}$ illustrate the effect of a non-reacting volatile (a) in an open system: univariant PT curves for the dissociation of magnesite occur at lower temperatures as CO_2 is diluted, and (b) in a closed system: the univariant PT curves are replaced by divariant bands. If metamorphism occurs in the presence of H_2O and CO_2 parageneses such as quartz-calcite-wollastonite and dolomite-calcite-periclase would be univariant in open systems and divariant in closed systems. Their rarity suggests univariant conditions and this appears to confirm that many metamorphic systems are open with respect to H_2O , CO_2 , and other gaseous components.

3. On a skarn monazite occurrence from the Namib desert near Usakos, South West Africa: by Dr. O. von Knorring and Dr. T. N. Clifford (vol. 32, p. 650).

4. Ages of uraninite from two British localities: by Dr. A. G. Darnley and Messrs. G. H. Smith, T. R. D. Chandler, D. F. Dance and E. R. Preece (vol. 32, p. 654).

5. Ages of some uranium and thorium minerals from East and Central Africa: by Dr. A. G. Darnley and Messrs. J. E. T. Horne, G. H. Smith, T. R. D. Chandler, D. F. Dance and E. R. Preece (vol. 32, p. 716).

The following paper was taken as read:

The cummingtonite problem: by Dr. W. Layton and Mr. R. Phillips (vol. 32, p. 659).
